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BUILDING CODE
OF
THE CITY OF NEW YORK

As Amended to June 1, 1929

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CITY OF NEW YORK

BOROUGH OF MANHATTAN

JULIUS MILLER, President

BUREAU OF BUILDINGS

CHARLES BRADY, Superintendent

20th Floor, Municipal Building

Centre and Chambers Streets

JUNE 1, 1929

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COMPILED BY

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CITY OF NEW YORK CODE OF ORDINANCES

CHAPTER 5

*BUILDING CODE

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†ARTICLE 1.

General Provisions

- Section 1. Scope.
2. Definitions.
3. Application for permits.
4. Permits.
5. Certificate of occupancy.
6. Modifications.
7. Rules.
8. Approved materials, appliances and methods of construction.
9. Seal of building bureau.
10. Right of entry of officers and employees.

1 §1. *Scope.* 1. *Short title.* This chapter shall be known and cited as the Building Code.

2. *Matter covered.* All matters concerning, affecting or relating to the construction, alteration or removal of buildings or structures, erected or to be erected in the city, are presumptively provided for in this chapter, except in so far as such provisions are contained in the Charter, the Tenement House Law, the labor law, or the rules promulgated in accordance with the provisions of this chapter by the superintendents of buildings of the several boroughs.

3. *Chapter remedial.* This chapter is hereby declared to be remedial, and shall be construed liberally, to secure the beneficial interests and purposes thereof.

4. *All new work to conform.* No wall, structure, building or part thereof shall hereafter be constructed, nor shall the plumbing or drainage, or other equipment of any building, structure or premises, so far as provided for in this chapter, be constructed or altered in the city, except in conformity with the provisions of this chapter. No building already erected, or hereafter to be built in said city, shall be altered in any manner that would be in violation of any of the provisions of this chapter, or any rule or approval of the superintendent of buildings made and issued thereunder; but nothing in this chapter shall prohibit the raising or lowering of any building to meet a change of grade in the street on which it is located, provided that the building is not otherwise altered.

5. *Undeveloped localities.* In such parts of the city outside the fire limits and suburban limits in which a system of streets has not been established, only so much of the requirements of this chapter shall apply as in the judgment of the superintendent of buildings may be necessary for safety of life and health; but this shall not be construed to permit the

†Amended by ord. adopted Dec. 14, 1915, effective March 14, 1916.

erection of any building to exceed in height or area the limits fixed by this chapter for such buildings.

6. *Buildings affected.* All provisions of this chapter shall apply with equal force to municipal buildings as they do to private buildings, except as may be specifically provided for by law.

§2. **Definitions.** Unless otherwise expressly stated, **2** the following terms shall, for the purposes of this chapter, have the meaning herein indicated:

a. Words used in the present tense include the future; words in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural the singular; the word "person" includes a corporation as well as an individual; "writing" includes printing, and printed or typewritten matter; "oath" includes affirmation; "signature" or "subscription" includes "mark", when the person cannot write, his name being written near it.

b. The term "occupied" as applied to any building, shall be construed as though followed by the words "or intended, arranged or designed to be occupied."

c. The term "approved" as applied to any material, device or mode of construction, means approved by the superintendent of buildings under the provisions of this chapter, or by any other authority designated by law to give approval in the matter in question.

d. The term "owner" includes his duly authorized agent or attorney, a purchaser, devisee, and any person entitled to an interest in the property in question.

e. An alteration, as applied to a building or structure, is any change or rearrangement in the structural parts or in the exit facilities, or any enlargement, whether by extending on any side or by increasing in height, or the moving from one location or position to another.

f. The term "curb," when used in defining the height of a building means the mean curb level at that front of the building which faces on the street of greatest width, or, if the greatest width occurs on more than one of the streets on which the building faces, the mean curb level at that point of the building which faces on the street of greatest width and having the highest curb.

The term "curb" when used in fixing the depth of an excavation, means the curb level at that point of the curb which is nearest to the point of the excavation in question.

g. The term "height" as applied to a building or structure means the vertical distance, measured in a straight line from the curb level, or if the grade of the street has not been legally established or the building does not adjoin the street, from the average level of all the ground adjoining such building, to the highest point of the roof beams in the case of flat roofs, and to the average height of the gable

in the case of roofs having a pitch of more than twenty degrees with a horizontal plane.

h. A story is that part of any building comprised between any floor and the floor or roof next above.

i. A tenement house is a building as defined in the Tenement House Law.

j. The terms "garage," "storage garage," "non-storage garage," "motor vehicle repair shop" and "oil selling station" shall have the meanings indicated in chapter 10 of the Code of Ordinances.

3 §3. Application for permits. 1. *For construction or alterations.* Before the construction or alteration of any building, wall or structure, or any part of either, or of any platform, staging or flooring to be used for standing or seating purposes and before the construction or alteration of the plumbing or drainage of any building, structure or premises is commenced, the owner or lessee, or agent of either, or the architect or builder employed by such owner or lessee in connection with the proposed construction or alteration, shall submit to the superintendent of buildings a detailed statement in triplicate of the specifications on appropriate blanks to be furnished to applicants by the bureau of buildings, and such plans and structural detail drawings of the proposed work as the superintendent of buildings may require. Such statement, constituting an application for a permit to construct or alter, shall be accompanied by a further statement in writing, sworn to before a notary public or commissioner of deeds, giving the full name and residence of each of the owners of said building or proposed building, structure or proposed structure, premises, wall, platform, staging or flooring, and by a diagram of the lot or plot on which such construction or alteration is to be made showing the established grade of the street, if any, and the exact location of any proposed new construction and all existing buildings or structures that are to remain. Except in the Borough of Richmond it shall not be lawful to erect any part of a building or structure, except the cellar or basement, below the legal established grade as laid down on the city map; provided that, in the case of a lot having more than one street frontage, when so situated that the street frontages intersect, the grade along the longest street frontage shall be used, and, when so situated that the street frontages do not intersect the grade along each frontage shall be used to one-half the depth of the lot between street frontages. (Amended by ord. adopted May 21, 1929, effective May 31, 1929.)

2. *Authorization of owner.* If the construction, alteration or plumbing or drainage or the alteration thereof, is to be made or executed by any other person than the owner of the land in fee, the person intending to make such construction or alteration, or to construct such plumbing or drainage, shall, either as owner, lessee, or in any representative capacity, accompany the application to build or alter with a statement in writing, sworn to as aforesaid, giving the full name and residence of each of the owners of the land,

building, or proposed building, structure or proposed structure, premises, wall, platform, staging or flooring, and reciting that he is duly authorized to perform said work. Such statement may be made by the agent or architect of the person hereinbefore required to make the same.

3. *Notice to demolish.* Before any existing building or part of an existing building is demolished, a statement in writing on appropriate blanks to be furnished by the bureau of buildings, constituting a notice to demolish, shall be submitted to the superintendent of buildings by the owner or any person authorized by the owner, giving the full name and residence of each of the owners of the building to be demolished, the name and business address of the person who is to do the work and such other information respecting the building as the superintendent of buildings may require. Such notice shall be submitted not less than forty-eight hours before the work of demolition is commenced.

4. *Place of filing.* All applications, notices and sworn statements required by this section, and copies of the approved plans shall be kept on file in the office of the superintendent of buildings. Applications shall be promptly docketed as received. For purposes of identification and reference all such papers shall be marked with the block and lot number of the property to which they apply, and with the street and house number when possible.

5. *Amendments.* Nothing in this chapter shall prohibit the filing of amendments to any application at any time before the completion of the work for which permit was sought, and such amendments, after approval, shall be made part of the application and filed as such.

6. *Ordinary repairs excepted.* Ordinary repairs to buildings or structures, or to the plumbing and drainage thereof, may be made without notice to the superintendent of buildings, but such repairs shall not be construed to include the cutting away of any wall or any portion thereof, the removal or cutting of any beams or supports, or the removal, change or closing of any stairway or required means of exit, or the alteration of any house sewer, private sewer or drainage system, or the construction of any soil or waste pipe.

§4. *Permits.* 1. *Approval of applications.* It shall ⁴ be unlawful to construct or alter any building, structure, wall, platform, staging or flooring, or any part thereof, or any plumbing and drainage, until the application and plans required by §3 of this article shall have been approved by the superintendent of buildings, and a written permit issued by him. The superintendent of buildings shall approve or reject any application or plan, or amendment thereto, filed with him pursuant to the provisions of this article within a reasonable time and, if approved, shall promptly issue a permit therefor.

2. *Approval in part.* Nothing in this section shall be construed to prevent the superintendent of buildings from approving and issuing a permit for the construction of part of a building or structure, when plans and detailed statements have been presented for the same, before the entire plans and detailed statements of said building or structure have been submitted or approved.

3. *Signature to permit.* Every permit issued by the superintendent of buildings under the provisions of this chapter shall have his signature affixed thereto, but this shall not prevent the superintendent from authorizing any subordinate to affix such signature.

4. *Limitations.* Any permit issued by the superintendent of buildings under the provisions of this article, but under which no work is commenced within one year from the time of issuance, shall expire by limitation.

5. *Compliance with plans.* The construction or alteration of any building, structure, platform, staging or flooring, or of any plumbing or drainage, shall be in accordance with the approved detailed statement of specifications and plans, for which the permit was issued, or any approved amendment thereof. The superintendent may require a certified copy of the approved plans to be kept at all times on the premises from the commencement of the work to the completion thereof.

6. *Adherence to diagram.* The location of any new building or structure, or of any extension to an existing building or structure, shown on the diagram filed as required by §3 of this article, or on any approved amendment thereof, shall be strictly adhered to. It shall be unlawful to reduce or diminish the area of any lot or plot, a diagram of which has been filed with an application to construct or alter and has been used as the basis for a permit, unless the building or structure for which the permit was issued complies in all respects with the requirements of this chapter for buildings or structures located on plots of such diminished area, provided, however, that this shall not apply to any case in which the lot area is reduced by reason of any street opening or widening or other public improvement.

7. *Revocation.* The superintendent of buildings may revoke any permit or approval issued under the provisions of this article, in the case of any false statement, or any misrepresentation as to a material fact in the application on which the permit or approval was based.

5 §5. *Certificate of occupancy.* 1. *New buildings.* No building hereafter erected shall be occupied or used, in whole or in part, for any purpose whatever until a certificate of occupancy shall have been issued by the superintendent of buildings certifying that such building conforms substantially to the approved plans and specifications and the requirements

of this chapter applying to buildings of its class and kind.

2. *Buildings hereafter altered.* No building hereafter altered, which was vacant during the progress of the work of alteration, shall be occupied or used, in whole or in part, for any purpose whatever, until a certificate of occupancy shall have been issued by the superintendent of buildings certifying that the work for which the permit was issued has been completed substantially in accordance with the approved plans and specifications and the provisions of this chapter applying to such an alteration; and when the occupancy or use of a building has continued during the work of alteration, the occupancy or use of the building shall not continue for more than thirty days after completion of the alteration unless such certificate shall have been issued.

3. *Existing buildings.* Nothing in this section shall prevent the continuance of the present occupancy and use of any now existing building, except as may be specifically prescribed by this chapter or as may be necessary for the safety of life or property. Upon written request from the owner, the superintendent of buildings shall issue a certificate of occupancy for any now existing building, certifying, after verification by inspection, the occupancy or use of such building, provided that at the time of issuing such certificate there are no notices of violation, or other notices or orders pending in the bureau of buildings.

4. *Change of occupancy.* No change of occupancy or use shall be made in any building or part thereof, hereafter erected or altered, that is not consistent with the last issued certificate of occupancy for such building. In case of any now existing building, no change of occupancy that would bring it under some special provision of this chapter, shall be made, unless a certificate is issued by the superintendent of buildings certifying that such building conforms to the provisions of this chapter with respect to buildings hereafter altered for the proposed new occupancy and use.

Nothing in this section shall prevent the issuance by the superintendent of buildings of a certificate of occupancy for the reception of persons for medical or charitable care or treatment, for any now existing building erected of non-fireproof construction as defined by subdivision 3 of section 71 of article 4 of this chapter, not exceeding 40 feet in height or 5,000 square feet in area, and enclosed on at least three sides by an open court as defined by section 135 of article 7 of this chapter, such court to be not less than 10 feet in width at all points, and provided that all interior stairways and all vertical shafts are enclosed in partitions of fireproof or fire resisting material, that all openings in such partitions are protected by self-closing fire doors or fire windows, and that proper exit facilities be provided and that boiler room, kitchen and bakery be separate and apart from the building

proper and be constructed of fireproof materials. (*Amended as above April 12, 1918.*)

5. *Temporary occupancy.* Upon request of the owner or his authorized representative, the superintendent of buildings shall issue a temporary certificate of occupancy for part of a building, provided that such temporary occupancy or use would not in any way jeopardize life or property.

6. *Contents of certificate.* In addition to the certification when required by this section, as to compliance with approved plans and specifications, and provisions of this chapter, all certificates of occupancy shall state the purposes for which the building may be used in its several parts, the maximum permissible live loads on the several floors, the number of persons that may be accommodated in the several stories, in case such number is limited by any provision of this chapter or the approved specifications, and all special stipulations of the permit, if any.

7. *Issuance and filing.* Certificates of occupancy shall be issued within ten days after written application therefor, if said building at the date of such application shall be entitled thereto. A record of all certificates shall be kept in the bureau of buildings and copies shall be furnished, on request, to any person having a proprietary interest in the building affected.

6 §6. *Modifications.* In exercising his powers to vary the provisions of this chapter, or any rule authorized thereunder, the superintendent of buildings shall proceed in accordance with the provisions of the Greater New York Charter establishing that power. A record of all modifications shall be kept in the bureau of buildings, properly indexed and open to public inspection during business hours. All modifications, including the applicant's petition for same and the superintendent's reasons for granting, shall be published in full in the CITY RECORD within two weeks after the superintendent's action, and may be cited as precedents.

7 §7. *Rules.* 1. *Authority to adopt rules.* The superintendent of buildings shall have power to adopt such rules with respect to the materials and mode of construction, consistent with the provisions of this chapter, as may be necessary to secure the intent and purposes of this chapter and a proper enforcement of its provisions. For any provisions of this chapter referring to the rules of requiring approval of materials or modes of construction, such superintendent shall adopt, when this section becomes effective or as the necessity may arise, such rules as are required or will establish the conditions of approval. So far as practicable such rules shall be uniform in all the boroughs.

2. *Procedure.* No rule adopted by the superintendent of buildings shall become effective until it shall have been published in the CITY RECORD on eight successive Mondays, and until a public hearing on the same shall have been held.

provided, however, that said public hearing shall not be necessary for the purposes of this chapter unless a request shall have been made for such hearing during the said period of publication. Any rule adopted and promulgated as herein provided shall have the same force and effect as any provision of this chapter. All rules heretofore legally promulgated and in force at the time when this section becomes effective shall continue in force, provided they are not inconsistent with any provision of this chapter.

3. *Amendment and repeal.* The superintendent of buildings may amend or repeal any rule by the same procedure prescribed for the adoption of new rules.

§8. **Approved materials, appliances and methods of construction.** Whenever any materials, appliances or methods of construction have been approved by the superintendent of buildings as conforming to tests prescribed by this chapter, or to any rules adopted thereunder, a notice to that effect shall be published in the CITY RECORD, including information as to the conditions under which said materials, appliances or methods of construction were tested and approved. A list of such materials, appliances and methods of construction shall be kept on file in the bureau of buildings, properly indexed and open to public inspection during business hours.

§9. **Seal of building bureau.** Each superintendent of buildings may adopt a seal and direct its use in his bureau. 9

§10. **Right of entry of officers and employees.** Any officer or employee of the bureau of buildings, so far as it may be necessary for the performance of his duties, shall have the right to enter any building or premises in said city upon showing his badge of office. (Amended by ord effective Dec. 28, 1915.) 10

*ARTICLE 2.

Materials.

- Section 20. Quality of materials.
21. Weights of materials.
 22. Tests.
 23. Brick.
 24. Sand.
 25. Lime.
 26. Cement.
 27. Mortar.
 28. Concrete.
 29. Hollow Building Blocks.
 30. Iron and Steel.
 31. Timber.

§20. **Quality of materials.** All building materials shall be of a quality to meet the intent of this chapter, and 20

*Amended by ord. adopted Apr. 20, 1915, effective May 1, 1915.

shall conform to such specifications, consistent with the requirements of this chapter, as may be promulgated by the superintendent of buildings.

21 §21. Weights of materials. The weights of various materials in pounds per cubic foot shall be assumed to be as follows:

Brickwork	120
Concrete, cinder, used for floor arches or slabs.....	108
Concrete, cinder, used for filling over fireproof floors..	60
Concrete, stone	144
Granite, bluestone and marble	168
Limestone	156
Sandstone	144
Oak and longleaf yellow pine	48
Spruce, fir, hemlock, white pine and shortleaf yellow pine	30

22 §22. Tests. 1. *When required.* New structural material, or structural material not otherwise provided for in this chapter, shall be subjected to such tests, to determine its character and quality, as the superintendent of buildings shall direct. Appliances and devices required by any of the provisions of this chapter and new methods of construction shall be subjected to such tests to determine their efficiency, as the superintendent of buildings may direct. Such tests as may be required under this section shall be described in rules promulgated by the superintendent of buildings.

2. *Tests of materials.* All tests shall be conducted under the supervision of the superintendent of buildings, or his authorized representative. Laboratory tests shall be conducted at a testing laboratory of recognized standing. A superintendent of buildings conducting a test under the provisions of this section shall notify the superintendents of buildings of the other boroughs at least three days in advance of such test.

3. *Approval.* Any material, appliance, or method of construction meeting the requirements of this chapter or the specifications authorized thereunder shall be approved within a reasonable time after the completion of the tests. All such approvals and the conditions under which they are issued shall be published in the CITY RECORD within a month after issuance, and a complete list of all such approvals issued during the year shall be included in the annual report of the superintendent of buildings. The superintendent of buildings may prohibit the use of any material or appliance failing to conform to the requirements of this chapter or to the rules adopted thereunder.

4. *Conditions attaching to approvals.* Materials, appliances or methods of construction which have been tested and approved shall be used and installed in accordance with the

terms of the approval. So far as practicable all materials and appliances for which approvals have been issued shall have a distinctive brand mark for identification impressed on or otherwise attached to them. It shall be unlawful to use any such brand mark on any other material or appliance than that for which the approval was issued.

5. *Additional tests.* The superintendent of buildings may require any tests to be repeated if there is any reason to believe that the material or appliance is no longer up to the specifications on which the approval was based.

§23. **Brick.** The brick used in the construction of buildings shall be sound, well burnt brick. When old bricks are used in any wall they shall be thoroughly cleaned before being used, and shall be whole and good, hard, well burnt bricks. 23

§24. **Sand.** The sand used for building construction shall be clean, sharp, coarse and silicious. 24

§25. **Lime.** Quick lime and hydrated lime shall conform to such specifications as may be promulgated by the superintendent of buildings, or, in the absence of such specifications, with the standard specifications of the American Society for Testing Materials. 25

§26. **Cement.** Portland and natural cements shall conform to such specifications as may be promulgated by the superintendent of buildings in accordance with the provisions of this chapter, or, in the absence of such specifications, with the standard specifications of the American Society for Testing Materials. 26

§27. **Mortar.** 1. *Cement.* Cement mortar shall be made of cement and sand in the proportion of 1 part of cement and not more than 3 parts of sand by volume, or, in the case of bag mortars prepared under rules promulgated by the superintendent of buildings, in such proportion that the tensile strength per square inch at the age of 28 days shall be not less than 250 pounds when Portland cement is used, and 125 pounds when natural cement is used. Cement mortar shall be thoroughly mixed and shall be used immediately after the addition of water. Not more than 15 per cent. of the cement by volume may be replaced by an equal volume of lime. 27

2. *Cement and lime.* Cement-lime mortar shall be made of 1 part of lime, 1 part of cement and not more than 3 parts of sand to each by volume.

3. *Lime.* Except as may be otherwise provided, lime mortar shall be made of 1 part of slacked lime, lime putty or dry hydrated lime and not more than 4 parts of sand by volume.

§28. **Concrete.** 1. *Mixture.* Except as may be otherwise provided in this chapter, concrete shall be made of 1 part of cement, and not more than $2\frac{1}{2}$ parts of sand and 5 parts of coarse aggregate. 28

2. *Aggregate.* The coarse aggregate shall be granite, trap rock, gravel or other hard, durable material that may be approved by a rule of the superintendent of buildings. When gravel is used it shall be thoroughly washed. Where mass concrete is used, the coarse aggregates shall be of such size as will pass through a two-inch ring. All aggregates shall be free from dust or other deleterious material.

3. *Consistency.* All concrete shall be a wet mixture, and shall be placed in forms immediately after mixing, and well tamped. No concrete shall be used after initial set has begun.

4. *Forms.* All forms and centering shall be built in a substantial manner, and with joints sufficiently tight to prevent leakage of the cement. They shall be properly supported and braced as to safely sustain all the load that may be placed upon them during construction.

5. *Joints in concrete.* Joints formed between portions of concrete placed at different times shall be made in a manner not to injure the completed structure. Before fresh concrete is joined to concrete which has set or partially set, the surface of the old concrete shall be roughened, cleaned and thoroughly wet.

6. *Precautions against freezing.* No materials containing frost or that are frozen shall be used. Precaution shall be taken to prevent concrete from freezing. After it has been placed in position a temperature above 32 degrees F. shall be maintained, by artificial means if necessary, until the concrete has its initial set.

29 §29. *Hollow building blocks.* 1. *Concrete.* Hollow building blocks of concrete shall be made of Portland cement and suitable aggregates in such proportion as to develop, at the age of 28 days, an ultimate crushing strength per square inch of gross area of not less than 750 pounds when tested with the cells placed vertically, and 300 pounds when tested with the cells placed horizontally.

2. *Terra cotta.* Hollow building blocks of terra cotta shall be sound, hard and well burnt and shall develop an ultimate crushing strength per square inch of gross area of not less than 1,200 pounds when tested with the cells placed vertically, and 300 pounds with the cells placed horizontally.

3. *Absorption.* The absorption of hollow building blocks to be used for bearing or enclosing walls shall not exceed 12 per cent. in 48 hours as an average, nor more than 15 per cent. in any case.

30 §30. *Iron and steel.* 1. *Cast iron.* Cast iron shall be of good foundry mixture, producing a clean, tough, gray iron. It shall conform to such specifications as may be promulgated by the superintendent of buildings, or, in the absence of such specifications, to the standard specifications of the American Society for Testing Materials for medium

gray iron castings. Casting shall be free of serious blow-holes, cinder spots and cold shuts.

2. *Cast steel.* Steel castings for building construction shall be made of open hearth steel, and shall be practically free from blowholes. Except as may be otherwise prescribed by rules of the superintendent of buildings, they shall conform to the standard specifications of the American Society for Testing Materials for soft or medium steel castings.

3. *Structural steel.* All structural steel for buildings shall have an ultimate tensile strength of from 55,000 pounds to 65,000 pounds per square inch. Rivet steel shall have an ultimate strength of from 46,000 to 56,000 pounds per square inch. Except as may be otherwise prescribed by the rules of the superintendent of buildings, steel shall conform to the standard specifications of the American Society for Testing Materials for structural steel for buildings.

§31. **Timber.** All timbers and wood beams used in any building shall be of good sound material, free from rot, large and loose knots, shakes or any imperfection whereby the strength may be impaired. 31

*ARTICLE 3.

Working Stresses and Loads.

Section 50. General provisions.

51. Working stresses.

52. Working stresses for columns.

53. Loads.

54. Wind pressure.

55. Floor capacities.

§50. **General provisions.** 1. *Computations.* The dimensions of the several materials and the form of each construction to be used in building shall be computed as required in the various sections of this chapter. 50

2. *Factors of safety.* Where the unit stress of any material is not prescribed in this chapter the relation of allowable unit stress to ultimate strength shall be as 1 to 4 for metals, as 1 to 6 for timber, and as 1 to 10 for natural or artificial stones and brick or stone masonry. But wherever working stresses are prescribed in this chapter, the said working stresses shall be used.

3. *Temporary supports.* Every temporary support placed under any building or structure, or any part thereof, during the erection, finishing, alteration, or repairing of such building or structure or any part thereof, shall be of sufficient strength safely to carry the load to be placed thereon.

*Amended by ord. adopted Apr. 20, 1915, effective May 1, 1915.

51 §51. Working stresses. 1. *Safe carrying capacity.*

The safe carrying capacity of the various materials of construction, except in the case of columns, shall be determined by the working stresses in pounds per square inch specified in this section. Unless otherwise indicated, net sectional areas shall be used in determining the safe carrying capacity.

2. *Iron and steel.* (a) In compression:

Rolled steel	16,000
Cast steel	16,000
Cast iron	16,000
Steel pins in bearing	24,000
Steel rivets, shop or power driven, in bearing.....	24,000
Steel field rivets, hand driven, in bearing.....	16,000
Steel field bolts, in bearing.....	12,000

(b) In tension:

Rolled steel	16,000
Cast steel	16,000
Cast iron	3,000

(c) In shear:

Steel web plates.....	10,000
Steel pins and shop or power driven rivets.....	12,000
Steel field rivets, hand driven	8,000
Steel field bolts	7,000
Cast iron	3,000

(d) In bending, extreme fibre:

Rolled steel beams and riveted steel beams	16,000
Rolled steel pins, rivets or bolts	20,000
Cast iron, compression side	16,000
Cast iron, tension side	3,000

3. *Timber.* (a) In compression:

Oak	with grain 1,400, across grain 1,000
Yellow pine, longleaf....	with grain 1,600, across grain 1,000
Spruce and Douglas fir..	with grain 1,200, across grain 800
White pine, shortleaf yellow pine, N. C. pine and fir—	
	with grain 1,000, across grain 800
Locust	with grain 1,200, across grain 1,000
Hemlock	with grain 800, across grain 800

(b) In tension:

Oak	1,200
Yellow pine, longleaf	1,200
Shortleaf yellow pine	900
Douglas fir	800
Spruce and fir	800
White pine	700
Hemlock	600

(c) In shear:

Oak	with grain 200, across grain 1,000
Yellow pine, longleaf.....	with grain 150, across grain 1,000

Shortleaf yellow pine, N. C. pine, Douglas fir—	
with grain 100, across grain	1,000
White pine, spruce and fir..with grain 100, across grain	500
Hemlock .....with grain 100, across grain	600

(d) In bending, extreme fibre:

Oak	1,200
Yellow pine, longleaf	1,600
Douglas fir, white pine and spruce	1,200
Shortleaf yellow pine, N. C. Pine	1,000
Hemlock	800

4. *Stone*, in compression:

Granite	1,000
Greenwich stone	1,200
Gneiss	1,000
Limestone	700
Marble	600
Sandstone	400
Bluestone, North River	2,000
Slate	1,000

5. *Masonry*, in compression:

Grout, neat Portland cement.....	1,000
Grout, neat natural cement	500
Concrete, Portland cement, 1 :2 :4.....	500
Concrete, Portland cement, 1 :2½ :5.....	400
Concrete, natural cement, 1 :2 :4.....	210
Concrete, natural cement, 1 :2½ :5.....	150
Brick work in Portland cement mortar.....	250
Brick work in natural cement mortar.....	210
Brick work in lime-cement mortar	160
Brick work in lime mortar	110
Rubble stone work in Portland cement mortar	140
Rubble stone work in natural cement mortar.....	110
Rubble stone work in lime-cement mortar.....	100
Ashlar masonry, other than sandstone	600
Sandstone ashlar masonry	300

Hollow building blocks in cement mortar:

Terra cotta, cells vertical, gross area.....	100
Terra cotta, cells horizontal, gross area.....	50
Concrete, cells vertical, gross area	75
Concrete, cells horizontal, gross area	30
When filled with 1 :3 :6 concrete or better.....	150

§52. **Working stresses for columns.** 1. *General.* In **52**
columns or compression members with flat ends, of cast iron,
steel or wood, the stresses shall not exceed those specified in
this section for the respective ratios of slenderness. For inter-
mediate ratios of slenderness the working stresses shall be
proportionate to those given.

2. *Unsupported lengths.* Columns and compression members shall not be used having an unsupported length of greater ratios than given in this section.

3. *Eccentrically loaded columns.* Any columns eccentrically loaded shall have the stresses caused by such eccentricity computed and the combined stresses resulting from such eccentricity at any part of the column, added to all other stresses at that part, shall in no case exceed the working stresses given in this section. The eccentric load of a column may be considered to be distributed equally over the entire area of that column at the next point below that at which the column is securely braced laterally in the direction of the eccentricity.

4. *Cast iron and steel columns.* The working stresses in pounds per square inch of cross section for cast iron and steel columns shall be, when the length divided by the least radius of gyration equals

120	.....	7,600 for steel
110	.....	8,300 for steel
100	.....	9,000 for steel
90	.....	9,700 for steel
80	.....	10,400 for steel
70	..... 6,200 for cast iron,	11,100 for steel
60	..... 6,600 for cast iron,	11,800 for steel
50	..... 7,000 for cast iron,	12,500 for steel
40	..... 7,400 for cast iron,	13,200 for steel
30	..... 7,800 for cast iron,	13,900 for steel
20	..... 8,200 for cast iron,	14,600 for steel
10	..... 8,600 for cast iron,	15,300 for steel

5. *Wood columns.* The working stresses in pounds per square inch of cross section for wood posts and columns shall be, when the length divided by least side or diameter equals

30	.....	600 for longleaf yellow pine,	390 for spruce
25	.....	700 for longleaf yellow pine,	475 for spruce
20	.....	800 for longleaf yellow pine,	560 for spruce
15	.....	900 for longleaf yellow pine,	645 for spruce
12	.....	960 for longleaf yellow pine,	696 for spruce
10	.....	1,000 for longleaf yellow pine,	730 for spruce

For columns of shortleaf yellow pine, N. C. pine or Douglas fir the working stresses shall not exceed three-fourths of the corresponding values given for longleaf yellow-pine; for columns of white pine or fir the working stresses shall be taken the same as for spruce; for columns of white oak the working stresses shall be taken the same as for longleaf yellow pine.

§53. **Loads.** 1. *Dead load.* The term "dead load" means the weight of walls, partitions, framing, floors, roofs and all permanent construction entering into any building. (Amended by ord. effective June 22, 1915.)

2. *Live load.* The term "live load" means all forms of loading other than the weight of the material entering into the construction of the building.

3. *Floor loads.* Every floor, roof, yard, court or sidewalk shall be of sufficient strength in all parts to bear safely any imposed loads, whether permanent or temporary in addition to the dead loads depending thereon, provided, however, that no floor in any building or extension to an existing building hereafter erected, shall be designed to carry less than the following live loads per square foot of area, uniformly distributed, according as the floor may be intended or used for the purposes indicated.

40 pounds for residence purposes,

100 pounds for places of assembly or public purpose, except that for classrooms of schools or other places of instruction the floor need not be designed for more than 75 pounds, and

120 pounds for any other purpose, except that the floors of offices need not be designed for more than 60 pounds.

The live loads for which any and every floor may be designed shall be clearly shown in the application and on the plans before any permit to erect is issued.

4. *Concentrated loads.* Every steel floor beam in any building hereafter erected used for any business purpose shall be capable of sustaining a live load concentrated at its centre of at least 4,000 pounds.

5. *Moving loads.* Running machinery or other moving loads shall be considered as increasing the live loads in proportion to the degree of vibratory impulse transmitted to the floor.

6. *Roof loads.* Every roof hereafter erected, shall be proportioned to bear safely a live load of 40 pounds per square foot of surface when the pitch of such roof is twenty degrees or less, with the horizontal, and thirty pounds per square foot measured on a horizontal plane, when the pitch is more than twenty degrees.

7. *Loads on vertical supports.* Every column, post or other vertical support shall be of sufficient strength to bear safely the combined live and dead loads of such portions of each and every floor as depend upon it for support, except that in buildings more than five stories in height the live load on the floor next below the top floor may be assumed at ninety-five per cent. of the allowable live load, on the next lower floor at ninety per cent., and on each succeeding

lower floor at correspondingly decreasing percentages, provided that in no case shall less than fifty per cent. of the allowable live loads be assumed.

8. *Sidewalk loads.* For sidewalks between the curb and building lines, the live load shall be taken at 300 pounds per square foot.

9. *Yard and court loads.* For yards and courts inside the building line, the live loads shall be taken at not less than 120 pounds per square foot.

54 §54. **Wind pressure.** 1. *When considered.* All buildings over 150 feet in height and all buildings or parts of buildings in which the height is more than four times the minimum horizontal dimension, shall be designed to resist a horizontal wind pressure of 30 pounds for every square foot of exposed surface measured from the ground to the top of the structure, including roof, allowing for wind in any direction.

2. *Stability.* The overturning moment due to wind pressure shall not exceed 75 per cent. of the moment of stability of the structure, unless the structure is securely anchored to the foundation. Anchors shall be of sufficient strength to safely carry the excess overturning moment without exceeding the working stresses prescribed in this chapter.

3. *Allowable stresses.* When the stress in any member due to wind does not exceed 50 per cent. of the stress due to live and dead loads, it may be neglected. When such stress exceeds 50 per cent. of the stress due to live and dead loads, the working stresses prescribed in this chapter may be increased by 50 per cent. in designing such members to resist the combined stresses.

55 §55. **Floor capacities.** 1. *Estimate of floor capacity.* In every building now existing or hereafter erected, occupied wholly or in part as a business building, in which heavy materials are kept or stored, or machinery is introduced, the weight that each floor will safely sustain shall be estimated by the owner or occupant, or by a competent person employed by the owner or occupant. Such estimate shall be filed with the superintendent of buildings properly verified by the person making the same in such manner as such superintendent may direct and shall give full information on which the estimate is based. When such estimate is found to be satisfactory and correct, the superintendent of buildings shall approve the same.

If the superintendent of buildings shall have cause to doubt the correctness of said estimate, he is empowered to revise and correct the same and for the purpose of such revision the officers and employees of the bureau of buildings may enter any building and remove so much of any floor or

other portion thereof as may be required to make necessary measurements and examination. Any expense necessarily incurred in removing any floor or other portion of any building for the purpose of making any examination herein provided for shall be paid by the Comptroller, upon the requisition of the superintendent of buildings, out of the fund paid over to him under the provisions of §639 of this chapter. Such expenses shall be a charge against the person or persons by whom or on whose behalf said estimate was made, provided such examination proves the floors of insufficient strength to carry with safety the loads found upon them when such examination was made; and shall be collected in an action to be brought by the corporation counsel against said person or persons, and the sum so collected shall be paid over to the Comptroller, to be deposited in said fund in reimbursement of the amount paid as aforesaid.

2. *Posting floor capacities.* Before any building hereafter erected is occupied, in whole or in part, as a business building, and before any building already erected but not heretofore occupied as a business building is occupied or used, in whole or in part, for such purpose, the safe live load for each floor as approved by the superintendent of buildings shall be posted in a conspicuous place in the story to which it relates. When the safe live load for any existing floor, ascertained as hereinbefore, provided, has been approved by the superintendent of buildings, the owner or occupant shall post such approved live load in a conspicuous place or places on each story occupied for any of the purposes indicated in this section.

3. *Loading of floors.* No person shall place, or cause or permit to be placed, on any floor of any building any greater load than the approved safe load.

4. *Safes.* No safe shall be placed on a stair landing or in a stair hall, nor shall its weight be carried by any beam which also carries the floor of any landing or stair hall.

ARTICLE 4.

Classification of buildings.

Section 70. Occupancy.

71. Construction.

72. When buildings are required to be fireproof.

73. When buildings may be non-fireproof.

74. One-story special buildings.

§70. **Occupancy.** 1. *Classes designated.* For the purposes **70** of this chapter all buildings or structures shall be classified, with respect to occupancy and use, as public buildings,

*Added by ord. adopted June 8, 1915, effective September 1, 1915.

residence buildings and business buildings, as hereinafter specified and defined.

2. *Public buildings.* Public buildings are buildings or parts of buildings in which persons congregate for civic, political, educational, religious or recreational purposes, or in which persons are harbored to receive medical, charitable or other care or treatment, or in which persons are held or detained by reason of public or civic duty, or for correctional purposes, including among others, court houses, schools, colleges, libraries, museums, exhibition buildings, lecture halls, churches, assembly halls, lodge rooms, dance halls, theatres, bath houses, hospitals, asylums, armories, fire houses, police stations, jails and passenger depots.

3. *Residence buildings.* Residence buildings are buildings or parts of buildings in which sleeping accommodations are provided, except such as may for other reasons be classed as public buildings, including among others, dwellings, tenement houses, hotels, lodging houses, dormitories, convents, and studios and club houses having sleeping accommodations.

4. *Business buildings.* Business buildings are buildings or parts of buildings, which are not public buildings or residence buildings, including among others, office buildings, stores, markets, restaurants, warehouses, freight depots, car barns, stables, garages, factories, laboratories, smoke houses, grain elevators and coal pockets.

5. *Doubtful classification.* In case any building is not specifically provided for, or where there is any uncertainty as to its classification, its status shall be fixed by a rule promulgated by the superintendent of buildings.

6. *Mixed occupancy.* In case a building is occupied or used for different purposes in different parts, the provisions of this chapter applying to each class of occupancy shall apply to such parts of the building as come within that class; and if there should be conflicting provisions, the requirements securing the greater safety shall apply.

71 §71. *Construction.* 1. *Classes of construction.* For the purposes of this chapter all buildings or structures shall be classified with respect to construction, as fireproof, non-fireproof and frame.

2. *Fireproof.* Fireproof buildings or structures are those which are constructed throughout of materials that will resist the action of fire and are constructed as required in Article 17 of this chapter.

3. *Non-fireproof.* Non-fireproof buildings or structures are those which do not conform to the requirements for fireproof buildings or structures, but which are enclosed with walls of approved masonry or reinforced concrete.

4. *Frame.* Frame buildings or structures are those of which the exterior walls or any parts thereof are of wood, or

which do not conform to the requirements for fireproof or non-fireproof buildings.

§72. **When buildings are required to be fireproof.** 1. **72**
New buildings. Every building hereafter erected shall be a fireproof building, as follows:

a. Every public building over 20 feet high, in which persons are harbored to receive medical, charitable or other care or treatment, or in which persons are held or detained under legal restraint;

b. every other public building over 40 feet in height, or exceeding 5,000 square feet in area;

c. every residence building, except tenements, over 40 feet in height and having more than 15' sleeping rooms;

d. every tenement house exceeding 6 stories or parts of stories as provided in the Tenement House Law;

e. every residence building having more than 15 sleeping rooms and exceeding 2,500 square feet in area, unless divided by interior partition walls of approved masonry or reinforced concrete into sections of less than 2,500 square feet area;

f. every other residence building over 75 feet in height;

g. every business building exceeding fifty feet in height, used as a garage, motor vehicle repair shop or oil selling station within the fire limits or the suburban limits. (Amended Dec. 26, 1916, and July 17, 1917.)

i. every building over 4 stories in height used as a factory as defined in the Labor Law;

j. every building or structure within the fire limits or the suburban limits used as a grain elevator or a coal pocket;

k. every business building over 75 feet in height;

l. every business building within the fire limits or the suburban limits which exceeds an area of 7,500 square feet when located on an interior lot or when facing on only one street, or 12,000 square feet when facing on 2 streets, or 15,000 square feet when facing on 3 or more streets, provided that when any such building is equipped throughout with an approved system of automatic sprinklers, fireproof construction shall be required only when the areas exceed double those herein specified for the respective conditions, and provided also that when any such building is divided by approved interior fire walls, fireproof construction shall be required only when any undivided area exceeds 7,500 square feet. Buildings of greater areas than herein specified for the respective conditions may, considering location and purpose, be constructed non-fireproof by special permission of the superintendent of buildings, provided they do not exceed two stories in height.

2. *Alterations.* a. By extending. When any building now existing is to be enlarged by extending it on any side so

that the enlarged building would exceed the limits of height or area specified in subdivision 1 of this section for a new building, the extension or enlargement shall be constructed fireproof, provided that, in case the existing building is not of fireproof construction, the existing and new portions of the building shall be separated by fire walls.

b. By raising in height. No building now existing shall be raised in height so as to exceed the limits of height specified in subdivision 1 of this section unless it is fireproof.

73 §73. **When buildings may be non-fireproof.** 1. *New buildings.* Except when required by this article to be fireproof, or when permitted by Article 5 or Article 22 of this chapter to be frame, any building hereafter erected may be non-fireproof.

2. *Alterations.* Except when required by this article to be fireproof, or when permitted by Article 5 or Article 30 of this chapter to be frame, any building which shall hereafter be enlarged in any manner may be non-fireproof.

3. *Special fire protection.* In all non-fireproof buildings hereafter erected or hereafter altered or converted to be used as garages, motor vehicle repair shops or oil selling stations the columns and girders, unless of fireproof construction, and all wood floor and roof construction shall be covered and protected on all sides with such fire retarding materials and in such manner as may be prescribed by the rules of the Board of Standards and Appeals, except that when such buildings are not more than one story high, without basement or cellar, such protection shall not be required for the roof construction.

Existing non-fireproof buildings heretofore occupied as garages, motor-vehicle repair shops or oil selling stations shall not be required to comply with the provisions of this subdivision, except as may be specifically provided in rules hereafter adopted by the Board of Standards and Appeals. (Added July 17, 1917.)

74 §74. **One-story special buildings.** Nothing in this article shall prohibit the use of sheet metal not less than No. 26 gauge in thickness, or other approved incombustible, weather-proof material of such character and thickness as may be prescribed by the rules of the Board of Standards and Appeals, for the exterior walls of any building, irrespective of occupancy or location, except when otherwise specifically prescribed in this chapter; provided that such building is not more than one story high above the curb or the surrounding ground level, and that all sides except for necessary window and door openings, and the roofs of such buildings are of the same material and construction, and provided further that the area does not exceed 1,250 square feet, and the side walls 15 feet in height. (Amended Dec. 26, 1916; May 15, 1917; July 17, 1917.)

ARTICLE 5.

Restricted Areas

Section 90. Fire limits.

91. Suburban limits.
92. Enlarging buildings.
93. Repair of damaged buildings.
94. Moving buildings.
95. Buildings in process of construction.
96. Frame buildings permitted.

§90. **Fire limits.** Except as otherwise specifically provided **90** in this chapter, or as the same may be amended from time to time, no frame, wood or other combustible structure shall be hereafter built in the city within the following limits hereinafter referred to as the fire limits and no person shall maintain, occupy or use any such structure erected in violation of any provision of this ordinance:

1. *In the borough of Manhattan:* Beginning at a point on the North river at the Battery, and running thence northerly along the pierhead line to a point 100 feet north of the northerly side of Dyckman street; thence running easterly 100 feet north of and parallel to the northerly side of Dyckman street to a point 100 feet west of the westerly side of Seaman avenue; thence running northerly 100 feet west of and parallel to the westerly side of Seaman avenue to a point 100 feet south of the southerly side of W. 215 st.; thence running easterly 100 feet south of and parallel to the southerly side of W. 215th st., to a point 100 feet west of the westerly side of Broadway; thence running northerly 100 feet west of and parallel to the westerly side of Broadway to the bulkhead line of the Harlem ship canal; thence easterly and southerly along the bulkhead line of the Harlem ship canal and the Harlem river to the Bronx kills; thence easterly along the bulkhead line of the Bronx kills to the East river; thence southerly along the East river to the east of Randalls, Wards and Blackwells islands and along the pierhead line of the East river to the North river, at the place of beginning. (Ord. approved Aug. 14, 1914.)

2. *In the borough of The Bronx:* a. Beginning at a point on the eastern bulkhead line of the Harlem river at the intersection with the centre line of Washington bridge, thence running easterly along the centre line of Washington bridge to Aqueduct ave., thence running northerly along the centre line of Aqueduct ave. to Featherbed lane, thence running northeasterly along the centre line of Featherbed lane to Macombs road, thence running southerly along the centre line of Macombs road to 174th st., thence running easterly along the centre line of 174th st. to a point 100 feet west of the westerly side of Jerome ave., thence running

northerly 100 feet west of and parallel to the westerly side of Jerome ave. to Woodlawn road, thence running southeasterly along the centre line of Woodlawn road to a point 100 feet east of the easterly side of Jerome ave., thence running southerly 100 feet east of and parallel to the easterly side of Jerome ave. to E. 174th st., thence running easterly along the centre line of E. 174th st. to a point 100 feet west of the westerly side of Webster ave., thence running northerly 100 feet west of and parallel to the westerly side of Webster ave. to a point 100 feet north of the northerly side of Gun Hill road, thence running easterly 100 feet north of and parallel to the northerly side of Gun Hill road to a point 100 feet west of the westerly side of White Plains road, thence running southerly across Gun Hill road to a point 100 feet south of the southerly side of Gun Hill road, thence running westerly 100 feet south of and parallel to the southerly side of Gun Hill road to the westerly line of the right of way of the New York and Harlem railroad, thence running southerly along the westerly line of the right of way of the New York and Harlem railroad to a point 100 feet north of the northerly side of Fordham road, thence running easterly 100 feet north of and parallel to the northerly side of Fordham road to the westerly boundary of Bronx park, thence running southerly along the westerly boundary and easterly along the southerly boundary of Bronx park to the Bronx river, thence running southerly along the centre line of the Bronx river to a point 100 feet north of the northerly side of Walker ave., thence running easterly 100 feet north of and parallel to the northerly side of Walker ave. to a point 100 feet west of the westerly side of Morris Park ave., thence running northeasterly 100 feet northwest of and parallel to the northwesterly side of Morris Park ave. to a point 100 feet west of the westerly side of White Plains road, thence running northerly 100 feet west of and parallel to the westerly side of White Plains road to the northerly boundary line of the city, thence running easterly along said boundary line to a point 100 feet east of the easterly side of White Plains road, thence running southerly 100 feet east of and parallel to the easterly side of White Plains road to a point 100 feet south of the southerly side of Morris Park ave., thence running southwest 100 feet southeast of and parallel to the southeasterly side of Morris Park ave. to a point 100 feet south of the southerly side of Walker ave., thence running westerly 100 feet south of and parallel to the southerly side of Walker ave. to the Bronx river, thence running southerly along the centre line of the Bronx river to a point 100 feet north of the northerly side of Westchester ave., thence running easterly 100 feet north of and parallel to the northerly side of Westchester

ave. to the Eastern boulevard, thence running southerly across Westchester ave. to a point 100 feet south of the southerly side of Westchester ave., thence running westerly 100 feet south of and parallel to the southerly side of Westchester ave. to the Bronx river, thence running southerly along the centre line of the Bronx river to the East River, thence running southeasterly along the East river, northwesterly along the Bronx kills, and northerly along the Harlem river to the point of beginning;

b. Also, beginning at a point on the boundary line between the boroughs of The Bronx and Manhattan in the bed of the old Spuyten Duyvil Creek 100 feet west of the westerly side of Broadway, thence running northerly 100 feet west of and parallel to the westerly side of Broadway to the city line, thence running easterly along the city line to the east side of Broadway, thence running southerly along the easterly side of Broadway to the northerly side of Van Cortlandt park south, thence running easterly to a point 100 feet east of the easterly side of Broadway, thence running southerly 100 feet east of and parallel to the easterly side of Broadway to the boundary line between the boroughs of The Bronx and Manhattan, thence running westerly along said boundary line to the point of beginning. (Ord. approved Aug. 14, 1914.)

3. *In the borough of Brooklyn:* a. Beginning at the junction of Newtown creek with the East river, thence running along Newtown creek and the borough line between Brooklyn and Queens to Chauncey st., thence running southwesterly along the centre line of Chauncey st. to Central ave., thence running southeasterly along the centre line of Central ave. to the boundary line of Evergreen cemetery, thence running southerly along the boundary line of Evergreen cemetery to Highland boulevard, thence running northeasterly along the centre line of Highland boulevard to Highland Park, thence running southerly along the boundary line of Highland park to Jamaica ave., thence running easterly along the northerly side of Jamaica ave. to the borough line between Brooklyn and Queens, thence running southerly along said borough line to a point 100 feet south of the southerly side of Jamaica ave., thence running westerly 100 feet south of and parallel to the southerly side of Jamaica ave. to a point 100 feet east of the easterly side of Norwood ave., thence running southerly 100 feet east of and parallel to the easterly side of Norwood ave. to Atlantic ave., thence running easterly along the centre line of Atlantic ave., to a point 100 feet east of the easterly side of Milford st., thence running southerly 100 feet east of and parallel to the easterly side of Milford st. to a point 100 feet south of the southerly side of New Lots ave., thence running westerly 100 feet south of and parallel to the southerly

side of New Lots ave. to a point 100 feet south of the southerly side of Riverdale ave., thence running westerly 100 feet south of and parallel to the southerly side of Riverdale ave. to a point 100 feet west of the westerly side of E. 98th st., thence running northwesterly 100 feet west of and parallel to the westerly side of E. 98th st. to a point 100 feet south of the southerly side of Clarkson ave., thence running westerly 100 feet south of and parallel to the southerly side of Clarkson ave. across Remsen ave. and continuing 100 feet south of and parallel to the southerly side of Clarkson ave. to a point 100 feet east of the easterly side of Flatbush ave., thence running southerly 100 feet east of and parallel to the easterly side of Flatbush ave. to a point opposite the junction of Kings highway with Flatbush ave., thence running westerly across Flatbush ave., to a point 100 feet west of the westerly side of Flatbush ave., thence running northerly 100 feet west of and parallel to the westerly side of Flatbush ave. to a point 100 feet south of the southerly side of Church ave., thence running westerly 100 feet south of and parallel to the southerly side of Church ave. to a point 100 feet southeast of the southeasterly side of 14th ave., thence running southwest 100 feet southeast of and parallel to the southeasterly side of 14th ave. to a point 100 feet southwest of the southwest 100 feet southwest of and parallel to the southwest side of 60th st. to New York bay, thence running northerly along the pierhead line of New York bay, Gowanus bay, Buttermilk channel and the East river to the point of beginning;

b. Beginning at a point at the intersection of the Atlantic Ocean and W. 5th st., thence running northerly along the centre line of W. 5th st. to a point 100 feet north of the northerly side of Surf ave., thence running westerly 100 feet north of and parallel to the northerly side of Surf ave. to W. 8th st., thence running westerly along the southerly side of the right of way of the Norton's Point railroad to W. 37th st., provided that at no point along said right of way shall these limits be taken at a distance less than 100 feet north of the northerly side of Surf ave., thence running southerly along the centre line of W. 37th st. to the Atlantic Ocean, thence running easterly along the shore line to the point of beginning. (Ord. approved Aug. 14, 1914.)

4. *In the borough of Queens:* a. Beginning at a point in the bulkhead line of the East River at its intersection with the centre line of Winthrop ave., thence running southeasterly along the centre line of Winthrop ave. to a point 100 feet southeast of the southeasterly side of Steinway ave., thence running southwest 100 feet southeast of and par-

allel to the southeasterly side of Steinway ave. to a point 100 feet north of the northerly side of Astoria ave., thence running easterly 100 feet north of and parallel to the northerly side of Astoria ave. to the Old Bowery bay road, thence running southerly along the centre line of the Old Bowery bay road to Woodside ave., thence running southerly along the centre line of Woodside ave. to Middleburg ave., thence running westerly along the centre line of Middleburg ave. to Dickson st., thence running southerly along the centre line of Dickson st. to a point 100 feet south of the southerly side of Greenpoint ave., thence running westerly 100 feet south of and parallel to the southerly side of Greenpoint ave. to Borden ave., thence running easterly along the centre line of Borden ave. to Laurel Hill boulevard, thence running southwesterly along the centre line of Laurel Hill boulevard to Meeker ave., thence running southerly along the centre line of Meeker ave. to Newtown Creek, thence along Newtown creek to the East river, thence running northerly along the bulkhead line of the East river to the place of beginning; (Amended by ord. effective November 9, 1915.)

b. Beginning at a point on the borough line between Queens and Brooklyn intersected by a line distant 100 feet north of and parallel to the northerly side of Metropolitan ave., thence running easterly 100 feet north of and parallel to the northerly side of Metropolitan ave. to a point 100 feet east of the easterly side of Fresh Pond road, thence running southerly 100 feet east of and parallel to the easterly side of Fresh Pond road to Myrtle ave., thence running southerly along the Long Island railroad to the borough line between Queens and Brooklyn, thence running northwesterly along said borough line to the point of beginning;

c. Beginning at a point on the borough line between Queens and Brooklyn 100 feet north of the northerly side of Jamaica ave., thence running easterly 100 feet north of and parallel to the northerly side of Jamaica ave., to Brenton ave., thence running southerly across Jamaica ave. to a point 100 feet south of the southerly side thereof, thence running westerly 100 feet south of and parallel to the southerly side of Jamaica ave. to a point 100 feet east of the easterly side of Roseville ave., thence running southerly 100 feet east of and parallel to the easterly side of Roseville ave. to Mandsley st., thence running westerly across Roseville ave. to a point 100 feet west of the westerly side thereof, thence running northerly 100 feet west of and parallel to the westerly side of Roseville ave. to a point 100 feet south of the southerly side of Jamaica ave., thence running westerly 100 feet south of and parallel to the southerly side of Jamaica ave. to the boundary line between the boroughs of Queens and Brooklyn, thence running northerly along said boundary line to the place of beginning;

d. Beginning at a point on the centre line of Madison street, Flushing, 100 feet west of the westerly side of Main street, thence running northerly 100 feet west of and parallel to the westerly side of Main street to Jackson ave., thence running southerly 100 feet east of and parallel to the easterly point 100 feet east of easterly side of Main street, thence side of Main street to Madison street, thence running westerly along the centre line of Madison street to the point of beginning; (Ord. approved Aug. 14, 1914.)

e. Beginning at a point on the easterly side of Greenpoint avenue 200 feet north of the northerly side of Queens boulevard, in the first ward, borough of Queens, thence running easterly and southerly 200 feet north and east and parallel to the northerly and easterly sides of Queens boulevard to a point 100 feet north of and parallel to Jamaica avenue, in the fourth ward; thence running westerly across the Queens boulevard to a point 200 feet west of the westerly side of Queens boulevard; thence running northerly and westerly 200 feet westerly and southerly of and parallel to the Queens boulevard to a point on the easterly side of Greenpoint avenue 200 feet south of Queens boulevard, in the first ward, provided, however, that where any street parallels the Queens boulevard at a point not less than 150 feet from the boulevard, the side nearest the boulevard only shall be included in the fire limits. (Amended Dec. 31, 1921.)

91 §91. **Suburban limits.** Except as otherwise specifically provided in this chapter, no frame or wood structure shall be built hereafter within the following areas or limits hereinafter referred to as "Suburban Limits," and it shall be unlawful to maintain, occupy or use any such structure erected in violation of any of the provisions of this ordinance, provided, however, that nothing herein contained shall prevent the erection, maintenance or occupancy of any frame building to be used exclusively for residence purposes with not more than 15 sleeping rooms and covering not more than 85 per cent. of the width of the lot or plot on which it is erected, and maintaining on at least one side an open space or open spaces as may be necessary to preserve such restriction, or of any one-story frame stable or garage not exceeding 600 square feet in area or 15 feet in height and erected on the same plot with a one- or two-family building and maintained on all sides at least 4 feet from any lot line.

1. *In the borough of Manhattan*, all that portion of the borough not included in the fire limits.

2. *In the borough of The Bronx*, all that portion of the borough lying between the fire limits and the following boundaries:

Beginning at the Hudson river and running easterly along

the boundary line between the borough of The Bronx and Westchester county to a point 100 feet east of the easterly side of Barnes avenue, thence southerly 100 feet east of and parallel to the easterly side of Barnes avenue to a point 100 feet east of the easterly side of Bronxwood avenue, continuing southerly 100 feet east of and parallel to the easterly side of Bronxwood avenue to a point 100 feet south of the southerly side of Adee avenue, thence easterly 100 feet south of and parallel to the southerly side of Adee avenue to a point 100 feet east of the easterly line of Laconia avenue, thence southerly 100 feet east of and parallel to the easterly side of Laconia avenue to a point 100 feet south of the southerly side of Waring avenue, thence easterly 100 feet south of and parallel to the southerly side of Waring avenue to the centre of Givan's basin, thence southeasterly and easterly along the centre line of Givan's basin to Eastchester creek, thence southeasterly and southerly through Eastchester creek and Eastchester bay to a line 100 feet south of and parallel with the southerly side of Waterbury avenue, thence westerly along a line running 100 feet south of and parallel to the southerly side of Waterbury avenue to Westchester creek, thence southerly along the centre line of Westchester creek to a point 100 feet south of the southerly side of Lafayette avenue, thence westerly 100 feet south of and parallel to the southerly side of Lafayette avenue to a point 100 feet west of the westerly side of White Plains road, thence northerly 100 feet west of and parallel to the westerly side of White Plains road to a point 100 feet south of the southerly side of Watson avenue, thence westerly 100 feet south of and parallel to the southerly side of Watson avenue to the Bronx river.

Excepting that portion of the borough lying within the following described area: beginning at a point at the intersection of the centre line of the Bronx River, 100 feet south of Walker avenue (formerly West Farms road), running easterly along the southerly line of E. 177th street to the right of way of the New York, New Haven and Hartford Railroad; thence southerly along the west side of the right of way of New York, New Haven and Hartford Railroad to the northerly side of E. 174th street; thence westerly along the north side of E. 174th street to the centre line of the Bronx River; thence northerly along the centre line of the Bronx River to the point or place of beginning.

3. *In the borough of Brooklyn*, all that portion of the borough lying between the fire limits and the following boundaries: Beginning at the Atlantic Ocean on a line 100 feet east of and parallel to the easterly side of Ocean parkway, running thence northerly 100 feet east of and parallel to the easterly side of Ocean Parkway, to a point 100 feet south of the southerly side of Neptune avenue;

thence easterly 100 feet south of and parallel to the southerly side of Neptune avenue, to a point 100 feet east of the easterly side of Coney Island avenue; thence southerly 100 feet east of and parallel to the easterly side of Coney Island avenue, to the Atlantic Ocean; thence easterly along the line up to the Atlantic Ocean to a point 100 feet east of the easterly side of Thornhill street (Manhattan Beach Estates), running thence northerly 100 feet east of and parallel to the easterly side of Thornhill street, continuing across Sheepshead bay till it intersects with a line drawn 100 feet north of and parallel to the northerly side of Emmons avenue, thence westerly 100 feet north of and parallel to the northerly side of Emmons avenue to a point 100 feet east of the easterly side of Batchelder street, thence northerly 100 feet east of and parallel to the easterly side of Batchelder street to a point 100 feet north of the northerly side of Avenue Z, thence westerly 100 feet north of and parallel to the northerly side of Avenue Z to a point 100 feet east of the easterly side of Ocean avenue; thence northerly 100 feet east of and parallel to the easterly side of Ocean avenue to a point 100 feet south of the southerly side of Avenue U, thence easterly 100 feet south of and parallel to the southerly side of Avenue U to a point 100 feet east of the easterly side of Nostrand avenue, thence northerly 100 feet east of and parallel to the easterly side of Nostrand avenue to a point 100 feet south of the southerly side of Avenue N, thence easterly 100 feet south of and parallel to the southerly side of Avenue N, to a point 100 feet west of the westerly side of East 35th street, thence southeasterly 100 feet southwest of and parallel to the southeast of the southeasterly side of Flatlands avenue, thence northeasterly 100 feet southeast of and parallel to the southeasterly side of Flatlands avenue to a point 100 feet east of the easterly side of Schenectady avenue, thence northerly 100 feet east of and parallel to the easterly side of Schenectady avenue to a point 100 feet south of the southerly side of Clarendon road, thence easterly 100 feet south of and parallel to the southerly side of Clarendon road to a point 100 feet southeast of the southeasterly side of Ditmas avenue, thence northeasterly 100 feet southeast of and parallel to the southeasterly side of Ditmas avenue to a point 100 feet northeast of the northeasterly side of East 98th street, thence northwesterly 100 feet northeast of and parallel to the northeasterly side of East 98th street to a point 100 feet south of the southerly side of Vienna avenue, thence easterly 100 feet south of and parallel to the southerly side of Vienna avenue to a point 100 feet east of the easterly side of Fountain avenue, thence northerly 100 feet east of and parallel to the easterly side of Fountain avenue to a point 100 feet south of the southerly side of Sutter

avenue, thence easterly 100 feet south of and parallel to the southerly side of Sutter avenue to the boundary line of Queens borough, excepting, however, the premises beginning at the Atlantic Ocean at the easterly side of Ocean Avenue, running thence northerly along the easterly side of Ocean Avenue to Oriental Boulevard, thence easterly along the southerly side of Oriental Boulevard to the westerly side of Irwin Street; thence southerly along the westerly side of Irwin Street to the Atlantic Ocean; thence along the Atlantic Ocean to the point of beginning.

§92. Enlarging buildings. Except as otherwise specifically provided in this chapter, or as the same shall be amended from time to time, no existing frame, wood or other combustible structure shall be enlarged within the fire limits, or suburban limits, except in conformity with the provisions of this chapter with respect to new structures. (Ord. approved Aug. 14, 1914.) **92**

§93. Repair of damaged buildings. 1. *When prohibited.* **93** Within the fire limits any existing frame, wood, or other combustible structures which, in the judgment of the superintendent of buildings of the borough, may be damaged from any cause whatsoever to an amount greater than one-half of the value thereof exclusive of the foundations or may be in need of structural repairs to an amount greater than one-half of its value exclusive of the foundations, shall not be repaired or rebuilt, but shall be taken down.

2. *Surveys.* In case the owner or owners of the structure which may be damaged or in need of repairs shall be dissatisfied with the decision of the superintendent of buildings as to the extent of such damage or need of repairs, then the amount or extent of such damage or required repairs shall be determined by competent surveyors, one appointed by the superintendent of buildings, one by the owner or owners of the structure and, in case these two do not agree, one selected by them jointly. The report of the surveyors shall be reduced to writing and, when signed by any two of them, shall be conclusive. No building the subject of survey shall be in any manner repaired, altered or rebuilt until after the decision of the surveyors shall have been rendered. (Ord. approved Aug. 14, 1914.)

§94. Moving buildings. No frame, wood or other combustible structure shall be moved from without to within the fire limits. (Ord. effective Aug. 14, 1914; amended by ord. effective June 22, 1915.) **94**

§95. Buildings in process of construction. Nothing herein contained shall prevent the erection or completion of a frame structure for which a permit has been lawfully issued at the time this ordinance shall take effect within such portions of the fire limits as were not heretofore included within the fire limits of the city; provided the work thereon **95**

shall be diligently prosecuted so that the structure shall be completed within 15 months after the passage of this ordinance.

In case any such structure shall not be completed within the said period the holder of the permit therefor shall be deemed to have forfeited all rights and privileges thereunder and the uncompleted building or structure shall be taken down and removed within 60 days after the date of the forfeiture of such permit. (Ord. approved Aug. 14, 1914.)

- 96** §96. **Frame buildings permitted.** If any block situated within the fire limits has 90 per cent. of the buildings erected thereon constructed of frame, any vacant lot situated thereon may have a frame building placed or constructed thereon, provided the same be not more than 2 stories and basement in height and is to be used for residence purposes only. (Ord. approved Aug. 14, 1914.)

ARTICLE 6.

Height, Size and Arrangement.

- 110** Section 110.

*ARTICLE 7.

Light and Ventilation.

- Section 130. Rooms in residence buildings.
131. Rooms in business buildings
132. Rooms in public buildings.
133. Bathrooms and water-closet compartments.
134. Windows.
135. Courts.
136. Buildings on same plot.
137. Alterations.

- 130** §130. **Rooms in residence buildings.** 1. *Windows required.* Except as otherwise provided in this article or by any other law, every living room in every residence building hereafter erected shall have one or more windows opening directly upon a street or other open public space, or upon a court located upon the same lot or plot as the building and conforming to the requirements of this article for courts, provided that the width of such street or open public space is not less than required by this article for courts.
2. *Size of rooms.* Every such room shall be not less than six feet wide in any part, and shall contain not less than sixty square feet of clear floor area, and the clear height for this minimum floor area shall be not less than eight feet.

3. *Alcove rooms.* Nothing in this section shall prohibit, in residence buildings occupied by not more than two families,

*Added by ord. adopted Dec. 14, 1915, effective March 14, 1916.

rooms without windows as prescribed by subdivision 1 of this section, provided that every such room opens without obstruction directly into another room which has one or more windows having an aggregate area between stop beads of not less than twenty-four square feet and opening to the outer air as prescribed in subdivision 1 of this section, and that the opening between such rooms is not less than sixty square feet in area.

§131. Rooms in business buildings. Except as otherwise provided in this article, every room in every business building hereafter erected, other than rooms specifically provided for by the Labor Law, shall unless ventilated by windows opening directly upon a street or other open public space, or upon a court located on the same lot or plot as the building and conforming to the requirements of this article for courts, be provided with approved means of ventilation consisting of transoms or similar devices opening into rooms ventilated directly to the outer air or of other methods capable of maintaining a carbon dioxide content of the air of not more than one part in one thousand, provided that this requirement shall not apply to breweries or charging rooms, or other rooms where high quantities of carbon dioxide are an unavoidable concomitant of the use to which the room is put, or to rooms used exclusively for storage purposes, and provided further that the requirements of this section shall not apply to rooms in which the unoccupied space exceeds five hundred cubic feet for each occupant. **131**

§132. Rooms in public buildings. Except as otherwise provided in this article or by any other law or ordinance, every room in every public building hereafter erected shall be equipped with some approved system of positive ventilation which, during occupancy, will provide not less than two cubic feet of fresh, uncontaminated air per minute for each square foot of floor surface, unless the unoccupied space of such rooms exceeds one thousand cubic feet for each occupant and windows are provided opening directly upon a street or other open public space, or upon a court located on the same lot or plot as the building and conforming to the requirements of this article for courts. **132**

§133. Bathrooms and water-closet compartments. Every bathroom, toilet room or other room containing one or more water-closets or urinals, hereafter placed in any building, shall be ventilated in at least one of the following ways: **133**

a—by a window, opening to the outer air as prescribed in subdivision 1 of §130 and having, between stop beads, an area of not less than ten per cent. of the floor area nor less than three square feet in any case and a width of not less than one foot;

b—by a window of the size specified in a, opening on a

vent shaft which extends to and through the roof or into a court conforming to the requirements of this article for courts and which has a cross-sectional area of not less than one-fifth of a square foot for every foot of height, but not less than nine square feet in any case, and, unless open to the outer air at the top, a net area of louvre openings in the skylight equal to the maximum required shaft area;

c—by an individual vent flue or duct extending independently of any other flue or duct, to and above the roof and having a cross-sectional area of not less than one square foot for two or less water-closets or urinal fixtures and one-third of a square foot additional for each additional water-closet or urinal fixture;

d—by a skylight in the ceiling, having a glazed surface of not less than three square feet and arranged so as to provide ventilating openings of not less than three square feet to the outer air above the roof of the building or into a court conforming to the requirements of this article for courts, for two or less water-closets or urinal fixtures and two square feet additional for each additional water-closet or urinal fixture; or

e—by some approved system of mechanical exhaust ventilation of sufficient capacity to provide not less than four changes of air per hour.

134 §134. **Windows.** All windows, except windows provided for in §133 of this article, placed in any room of a residence building hereafter erected for the purpose of complying with the requirements of this article, shall have an aggregate area between stop beads of not less than one-tenth of the floor area of the room served thereby. Such windows shall be so arranged that when fully opened the total open space shall be not less than fifty per cent. of the total required window space.

135 §135. **Courts.** In every building hereafter erected every court provided under the provisions of this article for the lighting and ventilation of any room shall have a width at every point of not less than one inch for every foot that such point is distant from the lowest part of such court, but not less than four feet in any case. Every such court shall be open and unobstructed for the required widths from its lowest point to the sky, except for the ordinary projections of window sills, belt courses and similar ornamental projections to the extent of not more than four inches. When a court is located along a side of a lot or plot the lot line shall be deemed an enclosure of such court, except that when a court opens on a street or open public space, such street or open public space may be considered as part of that court.

§136. **Buildings on the same plot.** If more than one building¹³⁶ is hereafter placed on any lot or plot, or, if any building is placed on the same lot or plot with an existing building, the several buildings, may, for the purposes of this article, be considered as a single building. Any structure, whether independent or attached to a building, shall for the purpose of this article be deemed a building or part of a building.

§137. **Alterations.** No building shall hereafter be altered¹³⁷ so as to reduce either the size of any room or the amount of window space, to less than that required for buildings hereafter erected, or so as to create any additional room or rooms unless such additional room is made to conform to the requirements for rooms in buildings hereafter erected, except that such rooms may be of the same height as existing rooms in the same story. No building shall hereafter be enlarged, nor shall the lot or plot on which it is located be diminished so that the dimensions of any court required for light or ventilation, as in this article provided, shall be less than prescribed for buildings hereafter erected.

***ARTICLE 8.**

Exit Facilities.

Section 150. Definitions.

151. Application of article.

152. Exits.

153. Interior stairs.

154. Exterior stairways.

155. Fire towers.

156. Horizontal exits.

157. Hallways.

158. Doorways.

159. Miscellaneous requirements.

160. Alterations.

161. Existing buildings.

162. Fire escapes.

§150. **Definitions.** For the purpose of this article:¹⁵⁰

a—a floor area is any floor space enclosed on all sides by either the exterior walls, fire walls, or fire partitions;

b—a stair exit is a direct connection of any floor area to a stairway constructed in accordance with the requirements of this article for required stairs;

c—a horizontal exit is the connection of any two floor areas, whether in the same building or not, by means of a vestibule, or by an open air balcony or bridge, or through a fire partition or fire wall;

d—the term “sprinklered” means equipped with an ap-

*Amended by ord. adopted Dec. 14, 1915, effective March 14, 1916.

proved system of automatic sprinklers throughout the building, and the term "unsprinklered" means not so equipped.

151 §151. **Application of article.** Unless otherwise specifically stated in this article, the provisions thereof shall apply to buildings hereafter erected, except tenement houses coming under the provisions of the Tenement House Law, factories coming under the provisions of the Labor Law, motion picture theatres coming under the provisions of article 24 of this chapter, theatres and other places of amusement coming under the provisions of article 25 of this chapter, and residence buildings occupied exclusively by one or two families or having not more than fifteen sleeping rooms.

152 §152. **Exits.** 1. *Kind.* Every building hereafter erected shall have one or more exits as required in this section, consisting of interior or exterior stairs, fire towers, or horizontal exits, constructed and arranged as specified in this article, with the necessary hallways and doorways.

2. *Number of occupants.* For the purposes of this article, when the number of persons to be accommodated by the exits is not stated in the application for a permit to construct, such number of persons within any floor area shall be taken, according to the use of such floor area, as one person.

a—for every ten square feet in dance halls, lodge rooms and places of assembly;

b—for every fifteen square feet in court rooms, restaurants and classrooms in schools and colleges;

c—for every twenty-five square feet in stores, markets, lodging houses and reading rooms;

d—for every thirty-two square feet in workrooms;

e—for every fifty square feet in offices and show rooms;

f—for every one hundred square feet in hospitals, hotels, asylums, furnished room houses, and other residence buildings;

g—for every one hundred and fifty square feet in warehouses and garages.

It shall be unlawful to occupy any floor area by a greater number of persons than that for which exits have been provided in accordance with this article.

3. *Number.* a. From rooms. Every room having an occupancy of more than seventy-five persons shall have at least two doorways, remote from each other, leading to an exit or exits.

b. From ground floor. Every floor area having direct exit by doorways or hallways to a street and having an occupancy of more than seventy-five persons, shall have at least two means of exit.

c. From floor areas. Every other floor area above or below the ground floor shall have at least one interior stair-

way or fire tower connected thereto. Every such floor area shall have at least one additional exit when it exceeds two thousand five hundred square feet in area.

d. *Fire towers required.* In business buildings exceeding eighty-five feet in height, at least one stairway shall be a fire tower, provided that in sprinklered buildings in which two or more stairways are required under the provisions of this article, such fire tower shall not be required unless the building exceeds one hundred and twenty-five feet in height.

4. *Location.* Exits shall be so located that no point in any floor area served by them shall be more than one hundred feet distant along the line of travel from an exit, except that when any floor area is subdivided into smaller areas, such as rooms in hotels and office buildings, the distance from the door of any such room, along an unobstructed hallway, to an exit, shall be not more than one hundred and twenty-five feet. Where more than one exit is required to any floor area, the exits shall be placed remote from each other.

5. *Stairway exits.* Every required stairway shall lead to a street. At least one stairway shall continue to the roof, and when there are more than two stairways, at least two shall continue to the roof.

6. *Engineers' ladders.* Every building, including tenement houses, factories, theatres and motion picture theatres, in which high pressure steam boilers are placed below the curb level shall have stationary iron ladders or stairs from such story leading directly to a manhole through the sidewalk or other outside exit, unless exit is provided by an enclosed stairs or a horizontal exit.

§153. **Interior stairs.** 1. *Construction.* a. **Strength.** 153
All stairs, platforms, landings and stair halls shall be of sufficient strength to safely sustain a live load of not less than one hundred pounds per square foot.

b. *Materials.* All stairs and stairways serving an exit shall be constructed of incombustible material throughout, except in frame and non-fireproof buildings not exceeding forty feet in height and occupied by not more than fifty persons above the first story, and except when the stairs are enclosed in fireproof partitions, in frame and non-fireproof buildings not exceeding fifty feet in height.

c. *Support for treads and landings.* When treads or landings are of slate, marble, stone or composition they shall be supported for their entire length and width by a solid steel plate at least one-eighth of an inch thick, securely fastened. When stairs are of fireproof construction the treads and landings may be solidly supported for their entire length and width by the materials of which such stairs are constructed. The treads and landings shall be con-

structed and maintained in such manner as to prevent persons from slipping thereon.

2. *When to be enclosed.* a. Fireproof enclosures. In buildings exceeding forty feet in height or occupied by more than fifty persons above the first story, interior required stairways shall be enclosed with fireproof partitions or walls of approved masonry.

b. Non-fireproof enclosures. In buildings not exceeding forty feet in height and occupied by not more than fifty persons above the first story, interior required stairways which are not enclosed in fireproof partitions or walls of approved masonry shall be enclosed in partitions of wood studs firestopped at every story with incombustible material, and wire-lathed or covered with approved plaster boards on both sides, and in each case plastered with at least one-half of an inch of mortar on all exposed surfaces, or of other approved equally slow-burning material and construction.

c. Stairs of ornamental character. Nothing in this section shall require the enclosure of the flight of a required stairs, when ornamental in character, from the main entrance floor to the floor next above, provided that such stairs are not the only required stairs, that all other required stairs in the same story are enclosed as in this section prescribed, and that some other required stairs is accessible from the upper part of the stairs in question.

d. Open stair wells. Except as in this section otherwise provided, not more than two stories in any building shall be connected by an open well or unenclosed stairway.

e. Openings in enclosures. No openings shall be permitted in the stair enclosures required by this section, other than doorways, and such windows as are necessary for proper lighting. The doorways shall be equipped with approved self-closing fire doors, except that in non-fireproof enclosures, substantial self-closing hardwood, metal or metal covered doors may be used. Windows, opening on the interior of the building, shall be stationary fire windows.

3. *Width.* No stair or stairway required by this article as an exit shall have an unobstructed width of less than forty-four inches throughout its length, except that hand-rails may project not more than three and one-half inches into such width. The aggregate width of stairs in any story of the building shall be such that the stairs or the stairways may accommodate at one time the total number of persons ordinarily occupying or permitted to occupy the largest floor area served by such stairs or stairways above the flight or flights of stairs under consideration, on the basis of one person for each full twenty-two inches of stair width and one and one-half treads on the stairs, and one person for each three and one-half square feet of floor area on the land-

ings and halls within the stairway, provided that the number of persons to be accommodated as herein provided may be assumed at one-half of such total number of persons ordinarily occupying or permitted to occupy any floor area when the building is sprinklered and at one-third of such total number when a horizontal exit is provided in accordance with this article, and at one-fourth of such total number when the building is sprinklered and a horizontal exit is provided.

4. *Treads and risers.* Except where winders are permitted the treads and risers of stairs shall be so proportioned that the product of the tread, exclusive of nosing, and the riser, in inches, shall be not less than seventy nor more than seventy-five, but risers shall not exceed seven and three-quarter inches in height, and treads, exclusive of nosing, shall be not less than nine and one-half inches wide. Treads, other than winding treads, and risers, shall be of uniform width and height in any one flight. The use of winders is prohibited, except for stairs of an ornamental character, having a width of not less than five feet. The treads of winders, exclusive of the nosings, shall have a width of not less than seven inches at any point nor more than ten inches average width.

5. *Landings.* No flight of stairs shall have a vertical rise of more than twelve feet between floors or landings, provided that in stairs serving as an exit from places of assembly such vertical rise shall not exceed eight feet. The distance between risers on landings in straight runs of stairs shall be not less than forty-four inches.

6. *Hand-rails.* Stairs shall have walls or well secured balustrades or guards on both sides, and shall have hand-rails on both sides. When the required width of a flight of stairs exceeds eighty-eight inches, an intermediate hand-rail, continuous between landings, substantially supported and terminating at the upper end in newels or standards at least six feet high, shall be provided.

7. *Space under stairs.* The space under any stairs built in whole or in part of combustible materials shall be left entirely open and kept clear and free from encumbrance.

§154. *Exterior stairways.* Required stairs which may be permitted on the outside of a building shall be constructed of incombustible materials and shall conform in other respects, except as to enclosure, to the requirements of this article for interior stairs. Exterior stairs shall be connected to each story which they serve by means of self-closing fire doors. Doors and windows opening on such stairs shall be protected by approved self-closing fire doors or automatic fire windows. Metal mesh or other rigid guards at least six feet high shall be provided on each unenclosed side of such stairways throughout.

155 §155. **Fire towers.** Interior stairways constructed and arranged as follows shall be known as fire towers. The enclosing walls shall be of brick or reinforced concrete not less than eight inches thick, and without openings, except for doors or windows opening on a street, or on a yard or court not less than one hundred square feet in area. Access to the stairway shall be provided at each story served by a fire tower through outside balconies or fireproof vestibules having solid floors of incombustible materials and provided with substantial railings. Such balconies or vestibules shall be level with the floors of the building and platforms of the stairs connected by them, and shall be separated therefrom by self-closing fire doors. The clear width of such connecting balconies and vestibules shall be not less than that required for a hallway. The stairs in fire towers shall comply in all respects with the requirements of this article relating to interior stairs.

156 §156. **Horizontal exits.** No horizontal exit shall be deemed satisfactory under this article unless the floor area on either side of such horizontal exit is sufficient to hold the joint occupancy of both floor areas, allowing not less than three and one-half square feet of clear floor space per person, and at least one interior stairway or fire tower conforming to the requirements of this article is provided on each side of such horizontal exit. When vestibules or open air balconies are used they shall conform to the requirements for vestibules or open air balconies or fire towers. When bridges are used they shall be constructed of incombustible material. All doorways or windows opening on such vestibules, balconies or bridges shall be equipped with self-closing fire doors or automatic fire windows. Where there is a difference in level between the connected floor areas, gradients shall be provided of not more than one foot in ten feet.

157 §157. **Hallways.** When serving as an exit from or in connection with one or more stairways, the clear width of any hallway or passageway shall be not less than the aggregate required clear width of all stairs leading to it. The clear width of every hallway or passageway leading to an exit shall be not less than forty-four inches for the first fifty persons to be accommodated thereby, and six inches additional for each additional fifty persons or fraction thereof; when the number of persons to be accommodated thereby is less than fifty, the clear width of such hallway or passageway shall be not less than thirty-six inches.

158 §158. **Doorways.** 1. *Width.* The aggregate clear width of doorways serving as an exit from any room or floor area to a hallway, stairs or other means of exit, shall be not less than thirty-six inches for the first fifty persons to be accommodated thereby, and six inches additional for each additional

fifty persons or fraction thereof. The aggregate clear width of doorways serving as an exit from any stairway, hallway or passageway, shall be not less than the required width for such stairway, hallway or passageway. No single exit doorway shall have a clear width of less than thirty inches, provided that, when the total number of persons to be accommodated exceeds fifty, the clear width shall be not less than thirty-six inches.

2. *Hanging of doors.* The doors of any doorway required by this section shall be so hung and arranged that when opened they shall not in any way obstruct the required width of hallway, stairs, or other means of exit and, in the case of doorways leading directly to a street, shall not, in any position, project more than eighteen inches beyond the building line. Doorways serving as exits to a street from required stairways of any building, or to a yard, court or open passageway communicating with a street, shall have the doors, including the doors of vestibules, so hung as to swing outwards when opening; but this requirement shall not be construed to prohibit the use of doors swinging both inwards and outwards, nor of sliding doors in stables and garages, and in the shipping and receiving rooms of business buildings.

3. *Door fastenings.* The fastening of any exit door within the scope of this section shall be such that the door may be readily opened from the inside without the use of keys, provided that this requirement shall not apply to the doors of rooms where persons are under legal restraint.

§159. **Miscellaneous requirements.** 1. *Exit signs.* All exits from floor areas accommodating more than fifty persons shall be plainly marked by approved exit signs and red lights. 159

2. *Lighting.* Provision shall be made for the adequate lighting by artificial light of all stairways, hallways and other means of exit required by this article.

3. *Exits to be kept clear.* No doorway, hallway, passageway, stairs, or other means of exit, required by this article, shall be obstructed or reduced, except as to hand-rails, beyond its required width in any manner whatsoever.

§160. **Alterations.** No building shall hereafter be altered so as to reduce the number or capacity of exits to less than required for buildings hereafter erected. New exits hereafter installed in any building shall be installed in conformity to the requirements for exits in new buildings, unless such exits are installed to comply with a notice issued under the provisions of §161 of this article. 160

§161. **Existing buildings.** Every building now existing which is not provided with exit facilities as prescribed in this article for new buildings and in which the exit facilities are 161

inadequate for the safety of the occupants, shall be provided with such good and sufficient fire escapes, stairways, or other means of egress in case of fire as shall be directed by the superintendent of buildings; and said superintendent shall have authority within said city to direct fire escapes and other means of egress to be provided upon and within such buildings or any of them, except as may be otherwise provided by law. If the owner of any building affected by any order issued under this section, or his agent, shall, within forty-eight hours, Sundays and holidays excluded, after personal service of such order has been made, file with the superintendent of buildings a written appeal from such order, the superintendent of buildings shall appoint a board of survey, as provided for in §633 of this chapter for unsafe buildings, upon whose findings a new order shall be based and issued.

162 §162. **Fire escapes.** 1. *Construction.* All fire escapes hereafter erected shall be constructed of incombustible materials and of sufficient strength to safely sustain a superimposed load of one hundred pounds per square foot. The owner or lessee of any building upon which a fire escape is erected shall keep the same in good repair.

2. *Incumbering fire escapes.* No person shall at any time place any incumbrance of any kind whatsoever before or upon any fire escape, balcony or ladder.

3. *Notice against incumbrances.* In constructing all balcony fire escapes, the manufacturer thereof shall securely fasten thereto, in a conspicuous place, a metal plate having suitable raised letters on the same, to read as follows: "Notice: Any person placing any incumbrance on this balcony is liable to a penalty of \$10 and imprisonment for ten days."

4. *Duty of firemen and policemen.* Any fireman and policeman who shall discover any fire escape, balcony or ladder of any fire escape incumbered in any way shall forthwith report the same to the commanding officer of his company or precinct, who shall forthwith cause the occupant of the premises or apartment to which said fire escape, balcony or ladder is attached, or for whose use the same is provided, to be notified, either verbally or in writing, to remove such incumbrance and keep the same clear.

5. *Punishment for violations.* If said notice shall not be complied with by the removal forthwith of such incumbrance, and keeping said fire escapes, balcony or ladder free from incumbrance, then the said commanding officer shall apply to the nearest police magistrate for a summons for the occupant of the said premises or apartment of which the fire escape forms a part, and, on conviction, the said occupant shall be fined not more than ten dollars for each offense, or

may be imprisoned not to exceed ten days, or both, in the discretion* of the Court.

*ARTICLE 9.

Projections Beyond Building Line.

Section 170. Restrictions.

171. Permits revocable.

172. Alterations.

173. Existing encroachments.

174. Action of Board of Estimate.

§170. **Restrictions.** 1. *General.* Except as hereinafter **170**
otherwise provided in this article no part of any building,
hereafter erected, or of any enlargement of an existing build-
ing shall project beyond the building line so as to encroach
upon a public street or public space.

2. *Projections removable.* Any part of a building per-
mitted to project beyond the building line under the provi-
sions of this article shall be so constructed that its removal
may be made at any time without causing the building or
any part thereof to become structurally unsafe.

3. *Structural support.* No part of any building hereafter
erected or of any enlargement of an existing building that is
necessary for the structural safety of the building or an en-
largement thereof shall project beyond the building line so as
to encroach upon a public street or public space, but this
shall not be deemed to prohibit the projection beyond the
building line to the extent of not more than twelve inches
of the footings of street walls, provided such projecting parts
of footings are not less than eight feet below the sidewalk
level.

4. *Permissible projections.* a. Areas, meaning thereby
open spaces below the ground level immediately outside the
building and enclosed by substantial walls, may project be-
yond the building line not more than one-fifteenth of the
width of the street, but not more than five feet, except where
entirely prohibited by §160 of chapter 23 of this Code, pro-
vided, however, that every such area shall be covered over at
the street level by an approved grating of metal or other
incombustible material of sufficient strength to carry safely
the pedestrian street traffic.

b. Steps, leading up or down at entrances and included
between ornamental columns, pilasters or cheek pieces at least
three feet high on the sides of such entrances, may project
beyond the building line not more than two and one-half per
cent. of the width of the street, but not more than eighteen
inches in any case, except where prohibited entirely by §160
of chapter 23 of this Code, provided that the aggregate

*Added by ord. adopted Dec. 14, 1915, effective March 14,
1916.

width of such steps shall not exceed twenty per cent. of the actual street frontage of any one building, when such frontage is twenty-five feet or more, nor more than five feet when such frontage is less than twenty-five feet.

c. Columns, pilasters and ornamental projections, including their mouldings and bases, erected purely for the enhancement of the beauty of the building from an artistic standpoint, may project beyond the building line not more than two and one-half per cent. of the width of the street, but not more than eighteen inches in any case.

d. Balustrades of an ornamental character, including the sills and brackets on which they rest, may project beyond the building line not more than five per cent. of the width of the street nor more than twenty-two inches in any case, provided that every part of such balustrade is not less than ten feet above the sidewalk.

e. Mouldings, belt courses, cornices, lintels, sills, pediments and similar projections of a decorative character may project beyond the building line not more than one and one-fourth per cent. of the width of the street nor more than ten inches in any case.

f. The main cornice, meaning thereby a moulded projection at or near the top of the street wall, may project beyond the building line not more than five per cent. of the width of the street nor more than five feet in any case, provided such main cornice is not less than twelve feet above the sidewalk at any point.

g. Base courses may project beyond the building line not more than one and one-fourth per cent. of the width of the street nor more than ten inches in any case, provided they do not extend more than five feet above the highest point of the sidewalk.

h. Rustications and quoins may project beyond the building line not more than four inches.

i. Awnings and marquises, extending wholly or in part across the sidewalk, in connection with entrances to buildings, shall be not less than ten feet above the sidewalk at all points, except where prohibited by §160 of chapter 23 of this Code, provided they are constructed of iron and glass or other incombustible materials, and securely supported from the building, and are properly drained, and provided further that, except on streets that may by ordinance be designated as market streets, no awning or marquise shall extend along the street wall of a building for more than seventy-five per cent. of the length of such wall, nor, in any case, more than fifty feet, and there shall be a clear distance of not less than four feet between any two awnings on the same building.

j. Fire escapes and balconies to fire towers or other required exits, constructed of steel or other incombustible

material, when required on the fronts of buildings, may project beyond the building line not more than four and one-half feet, but no part of such fire escapes or balconies shall be less than ten feet above the sidewalk, provided that nothing in this section shall prevent the use of movable ladders or stairs to the sidewalk, so arranged that they are within ten feet of the sidewalk only when in actual use.

k. Vaults, entirely below the sidewalk level and conforming to the requirements of article 17, chapter 23 of this Code, shall not extend beyond the curb line. Openings in the roofs of vaults, between the building line and curb, shall be provided with substantial covers, flush in all parts with the sidewalk, of incombustible material, and so constructed and maintained as to be normally kept closed and when open thoroughly safeguarded, and to prevent persons from slipping thereon.

l. Hose connections for interior fire extinguishment equipments and fresh air inlets for plumbing systems may project through a street wall not more than twelve inches beyond the building line, except that where there is an angle formed by the street wall and a cheek piece or the base of a column, pilaster or ornamental projection, provided as in this section specified, they may be so located that no part extends more than fifteen inches from either side of such angle.

5. *Rules governing projections.* Nothing in this article shall be deemed to abridge the powers and duties of the borough presidents or the commissioners of parks within their respective jurisdictions, to adopt additional rules as may be necessary with respect to the construction or disposition of parts of buildings projecting beyond the building line. The borough presidents or commissioners of parks may, when deemed necessary or desirable, fix further restrictions as to the extent of projections beyond the building line, but no projection greater than in this article specified shall be permitted.

§171. **Permits revocable.** Any permission, express or implied, to construct part of a building so as to project beyond the building line, under the provisions of this article, is revocable by the Board of Aldermen or the Board of Estimate at will. 171

§172. **Alterations.** No alterations or enlargement shall be made to any existing part of a building now projecting beyond the building line, except in conformity with the provisions of this article so far as it affects new construction. 172

§173. **Existing encroachments.** Such parts of buildings which already project beyond the building line may be maintained as constructed until their removal is directed by the Board of Aldermen or the Board of Estimate, provided, 173

however, that nothing contained in this article shall be deemed to abridge the right of The City or any of its officers, to continue any action for the removal of any unauthorized projection beyond the building line or for the collection of any penalty heretofore incurred in connection therewith.

- 174** §174. **Action of Board of Estimate.** Nothing in this article shall be deemed to authorize any projection beyond the building line on those streets on which the removal of projections has been heretofore or may be hereafter directed by the Board of Estimate, except in conformity to resolutions by such Board.

*ARTICLE 10

Safeguards during Construction or Demolition.

Section 190. Enforcement of article.

- 191. Sidewalk sheds.
- 192. Temporary fence.
- 193. Roofs and skylights of adjoining buildings.
- 194. Scaffolding.
- 195. Floors to be filled in or covered over.
- 196. Protection of floor openings.
- 197. Weather protection.
- 198. Cellar drainage.
- 199. Overloading prohibited.
- 200. Precautions during demolition.

- 190** §190. **Enforcement of article.** Except as may be otherwise provided by any law or ordinance, the provisions of this article shall be enforced by the superintendent of buildings, and all safeguards required by the provisions of this article or by any rules authorized thereunder shall be subject to the supervision of the bureau of buildings. The superintendent of buildings shall, from time to time, adopt such rules, consistent with the provisions of this article, as may be necessary to secure fully the protection of persons and property. In case any safeguard shall not be provided as prescribed by this article, the superintendent of buildings shall cause a notice to be served personally upon the persons whose duty it may be to provide the same or upon the owners of the buildings affected, requiring such safeguard and specifying the manner in which the same shall be erected. If such safeguard is not provided as required in such notice, within three days after the service thereof, the superintendent of buildings shall have full power and authority to provide or cause the same to be provided as herein specified. All expenses connected with same may become a lien on the property inclosed or protected, which lien may be created and en-

*Amended by ord. adopted Nov. 9, 1915, effective Feb. 9, 1916.

forced in the same manner as now provided in §652 of this chapter.

§191. **Sidewalk sheds.** Whenever any building or part thereof, within ten feet of the building line, is to be erected or raised to exceed forty feet in height, or whenever such a building more than forty feet in height is to be demolished, the owner or the person doing or causing such work to be done shall erect and maintain during such work a substantial shed over the sidewalk in front of said building and extending, so far as practicable, from building line to curb. On streets fifty feet or less in width and on streets having sidewalks less than fifteen feet in width, such sheds may extend beyond the curb to such extent as may, on the recommendation of the superintendent of buildings, be approved by the borough president, provided that when such sheds extend to within fifteen feet of the opposite building line, the written approval of the lessees, tenants or occupants of the two stories or parts of stories next above the curb of the buildings along the opposite building line shall have been obtained before such approval is issued. Such shed shall remain in place until the building is enclosed, or, in case of a demolition, until the building has been reduced to twenty feet in height. Every such shed shall be kept properly lighted at night. (Amended as above, June 22, 1920.) 191

§192. **Temporary fence.** In any building operation that does not require sidewalk sheds as provided in Sec. 191 of this article, the owner or person doing or causing such work to be done, shall, unless relieved by a general rule of the superintendent of buildings or a special permit from him, erect and maintain in front of the building during such building operation, a substantial fence not less than eight feet high, of wood or other suitable material. Such fence may extend not more than six feet into the highway, and shall be built solid for its full length except for such openings, provided with sliding doors or doors swinging inwards, as may be necessary for a proper prosecution of the work. 192

§193. **Roofs and skylights of adjoining buildings.** When any building is to be carried above the roof of an adjoining building, proper means for the protection of the skylights and roof of such adjoining building shall be provided, at his own expense, by the person constructing or causing the construction of such building, provided that if the owner, lessee or tenant of the adjoining building should refuse permission to have the roofs and skylights so protected, the responsibility and expense for the necessary protection shall devolve on the person refusing this permission. 193

§194. **Scaffolding.** All scaffolds used in connection with the erection, alteration or demolition of any building shall be constructed in a manner to secure the safety of the workmen on them and of all persons passing under or near 194

them. All scaffolds used on or about buildings at a height of more than twenty feet above the street or ground level, or a floor, except scaffolding wholly within the interior of a building and covering the entire floor space of any room therein, shall be provided along the outer edges and ends with substantial railings or enclosures of wire mesh or other suitable material, extending at least three feet above the working platform.

195 §195. **Floors to be filled in or covered over.** If the floors of any building are to be of fireproof construction the floor filling shall be completed as the building progresses. If the floors consist of wood beams the under-flooring when double flooring is to be used, shall be laid on each story as the building progresses; when double floors are not to be used, the floors two stories below the story where the work is being performed shall be kept planked over. If the floor beams are of iron or steel, the entire tier of iron or steel beams on which the structural iron or steel work is being erected, except such spaces as may be reasonably required for the proper construction of such iron or steel work, and for the raising or lowering of materials to be used in the construction of such building, or such spaces as may be designated by the approved plans for stairways and shafts shall be thoroughly planked over.

196 §196. **Protection of floor openings.** All floor openings within a building in the course of construction shall be enclosed or fenced in on all sides by a barrier of suitable height, except on those sides which may be used for the handling of material hoisted through such openings, or at which stairs or ladders land, provided, that such sides, other than landings, shall be guarded by an adjustable barrier not less than three nor more than four feet from the floor and not less than two feet from the edge of such opening.

197 §197. **Weather protection.** Whenever permission has been given under any of the provisions of this chapter to enter any adjoining building the person who receives such permission or who is responsible for the work requiring such permission, shall provide for such adjoining building adequate protection against the weather.

198 §198. **Cellar drainage.** Before the foundation walls of any building are completed provision shall be made to prevent water accumulating in the excavation or cellar to the injury of the foundation, and if there is a sewer in the street the cellar shall also be connected therewith.

199 §199. **Overloading prohibited.** No building or part thereof, or any temporary support or scaffolding in connection therewith, shall be loaded during erection, alteration or demolition in excess of its safe carrying capacity.

200 §200. **Precautions during demolition.** In demolishing any building or part thereof, story after story shall be

completely removed. No material shall be stored upon a floor of any building in the course of demolition, but old material shall be lowered to the ground immediately upon displacement. The material to be removed shall be properly wet to lay the dust incident to its removal.

ARTICLE 11.

Partition Fences and Walls.

- Section 210. Construction and maintenance of fences.
211. Retaining walls.
212. Regulation of lots.
213. Neglect to maintain.
214. Disputes.
215. Enforcement.

§210. **Construction and maintenance of fences.** All partition fences, unless erected under some special agreement, shall be so built that the dividing line between the properties shall run through the center of such fence in each case, and they shall be built and maintained at the joint expense of the owners of the land on each side. (Ord., Aug. 11, 1914.) **210**

§211. **Retaining walls.** 1. *To conform to street regulation.* When the regulation of a lot, in conformity with the street or streets on which it is situated, shall require the ground on such lot to be raised and kept higher than the ground of the adjoining lot or lots (provided the ground of such adjoining lot or lots is not maintained at a grade lower than in conformity with the street or streets on which they are situated) and a retaining wall for supporting the same shall be necessary, such retaining wall shall be made and maintained jointly by the owners of the land on each side and shall stand one-half upon the land of each owner; but, if the owner of the lot or lots having the lower grade shall bear and discharge the entire cost and expense of the making, such retaining wall shall be built entirely upon the lot having the higher grade and shall thereafter be maintained jointly by the owners of the land on both sides thereof. **211**

2. *To support adjoining earth.* Where an excavation has been made or a fill placed on any lot, but, as the case may be, not below or above the legal grade in conformity with the street on which that lot fronts, and the land adjoining it has no building or permanent structure thereon, other than frame sheds or structures of like character, and where a retaining wall shall be necessary to support the adjoining earth, such retaining wall shall stand one-half upon the lot of each owner and shall be made and maintained jointly by the owners of the land on each side; provided, that, if the owner of the lot having the lower grade shall

bear and discharge the entire cost and expense of the making, such retaining wall shall be built entirely upon the lot having the higher grade and shall thereafter be maintained jointly by the owners of the land on both sides thereof.

3. *Surplus wall.* Where any owner shall insist on maintaining his ground either higher or lower than the legal regulation as hereinafter provided, except in a case herein otherwise specifically provided for, the surplus retaining wall, which may be necessary to support such height or provide for such excavation, shall be made and maintained at the sole expense of such owner.

4. *Construction.* All retaining walls required under this section shall be constructed in accordance with the provisions of this chapter.

5. *Removal.* Any retaining wall erected or provided under this section, standing partly on the land of each owner, may be removed by either owner when the necessity for such retaining wall no longer exists. (Ord. Aug. 11, 1914.)

212 §212. *Regulation of lots.* The regulation of lots, in conformity with the street or streets on which they are situated, shall be calculated at an ascent of 2 inches in every 10 feet, measured from the curb in a direction at right angles or normal thereto; provided that, in the case of a lot having more than one street frontage, when so situated that the street frontages intersect, the curb along the longest street frontage shall be used, and, when so situated that the street frontages do not intersect the curb along each frontage shall be used to one-half the depth of the lot between street frontages. A lot, as referred to in this section, shall be deemed and construed to mean a parcel of land not over 25 feet by 100 feet, in one ownership, whether adjacent land be in the same ownership or not; but, for the purpose hereof, no land in the same ownership may be divided into lots smaller than 25 feet by 100 feet. (Ord. Aug. 11, 1914.)

213 §213. *Neglect to maintain.* If any person, whose duty it may be to jointly make or repair any partition fence or retaining wall or any part thereof, in pursuance of the provisions of this article, shall neglect so to do, or to join in so doing, for 6 days, after being requested, in writing, by the owner or owners of the adjoining ground, the owner of such adjoining ground may make or repair such partition fence or retaining wall, or cause the same to be done, and may recover from such person such share of the expense of making or repairing so much thereof as is necessarily made or repaired by him, with costs, in any court having jurisdiction. (Ord. Aug. 11, 1914.)

214 §214. *Disputes.* In case of any dispute between parties, as to what part or portion of the expense shall be

borne and discharged by either of them, for building or maintaining any partition fence or wall, and in all cases of dispute concerning the sufficiency of any fence or wall, the controversy shall be determined by the superintendent of buildings of the borough in which the fence or wall may be situated. (Ord. Aug. 11, 1914.)

§215. **Enforcement.** The superintendent of buildings **215**
in each borough may, in order to effect the purposes of this article, notify in writing any owner of any requirement under any provision thereof. Any person who shall fail to proceed, within 10 days, in accordance with such notice, or to comply therewith, within such reasonable time thereafter as shall be allowed or permitted by the superintendent of buildings, shall be liable to a penalty of not less than \$10, nor more than \$50, and, in addition, he shall be liable to a further penalty of \$1 for each and every day that his default shall continue, after due notice thereof. (Ord. Aug. 11, 1914.)

*ARTICLE 12.

Excavations and Foundations.

Section 230. Excavations.

- 231. Soil, bearing capacity.
- 232. Foundations, generally.
- 233. Footings.
- 234. Foundation piers and caissons.
- 235. Pile foundations.
- 236. Foundation walls.
- 237. Retaining walls.

§230. **Excavations.** 1. *Safeguarding generally.* Un- **230**
til provision for permanent support has been made, all excavations shall be properly guarded and protected so as to prevent the same from becoming dangerous to life or limb and shall be sheet-piled, braced or shored, where necessary to prevent the adjoining earth from caving in, by the person causing the excavation to be made.

2. *When retaining wall required.* When an excavation is made on any lot, and provision for the support of adjoining earth is not otherwise made in accordance with law, the person making such excavation or causing it to be made shall, at his own cost and expense, except as may be provided in article 11 of this chapter or as hereinafter provided in this section, build a retaining wall to support the adjoining earth; and such retaining wall shall be carried to the height of the adjoining earth, and be properly protected by coping.

*Amended by ord. adopted June 22, 1915; effective September 22, 1915.

3. *Support of neighboring walls.* a. When excavation exceeds ten feet. Whenever an excavation is intended to be, or shall be carried to the depth of more than ten feet below the curb, the person causing such excavation to be made shall at all times, if afforded the necessary license to enter upon the adjoining land, and not otherwise, at his own expense, preserve and protect from injury any wall, building or structure, the safety of which may be affected by said excavation, and support the same by proper foundations, whether the said wall, building or structure is down more or less than ten feet below the curb. If the necessary license is not accorded to the person making such excavation, then it shall be the duty of the owner refusing to grant such license to make such wall, building or structure safe, and to support the same by proper foundations; and, when necessary for that purpose, such owner shall be permitted to enter upon the premises where such excavation is to be made.

b. When excavation does not exceed ten feet. If such excavation is not intended to be, or shall not be, carried to a depth of more than 10 feet below the curb, the owner of any wall, building or structure, the safety of which may be affected by said excavation, shall preserve and protect the same from injury, and support the same by proper foundations; and, when necessary for that purpose, shall be permitted to enter upon the premises where such excavation is to be made. In case such wall, building or structure, however, is so located that the curb to which it is properly referred is at a higher level than the curb to which the excavation is referred, such part of any necessary underpinning or foundation as may be due to the difference in curb levels shall be made and maintained at the joint expense of the person causing the excavation to be made and the owner of such wall, building or structure.

4. *Support of party wall.* In case an adjoining party wall is intended to be used by the person causing the excavation to be made, and such party wall is in good condition and sufficient for the uses of the existing and proposed buildings, the person causing the excavation to be made, shall, at his own expense, preserve such party wall from injury and support the same by proper foundations, so that said party wall shall be and remain practically as safe as before the excavation was commenced.

5. *Superintendent of buildings may act.* If the person whose duty it shall be under the provisions of this chapter to properly guard and protect an excavation, or to prevent adjoining earth from caving in, or to preserve or protect any wall, building or structure from injury, shall neglect or fail so to do after having had a notice of 24 hours from the

superintendent of buildings, such superintendent may enter upon the premises and employ such labor, and furnish such materials and take such steps as, in his judgment, may be necessary to prevent adjoining earth from caving in or to make such wall, building or structure safe and secure, or to prevent the same from becoming unsafe or dangerous, at the expense of the person whose duty it is to keep the same safe and secure. The City or any person doing the said work, or any part thereof, under and by direction of a superintendent of buildings, may bring and maintain an action against the person last herein referred to, to recover the value of the work done and materials furnished, in and about the said premises, in the same manner as if he had been employed to do the work by the said person.

§231. **Soil, bearing capacity.** 1. *Indicative statement required.* Applications for permits for new buildings, and when necessary, for alterations to existing buildings, shall contain a statement of the character of the soil at the level of the footings. **231**

2. *Presumptive capacities.* In the absence of a satisfactory test of the sustaining power of the soil, different soils, excluding mud, shall be deemed to safely sustain the following loads to the superficial foot, namely:

Soft clay	1 ton
Wet sand.....	2 tons
Firm clay.....	2 tons
Sand and clay, mixed or in layers.....	2 tons
Fine and dry sand.....	3 tons
Hard dry clay.....	4 tons
Coarse sand.....	4 tons
Gravel	6 tons
Soft rock.....	8 tons
Hard pan.....	10 tons
Medium rock.....	15 tons
Hard rock.....	40 tons

In case the soil under the footings of any one building is partly rock and partly yielding soil, the bearing capacity of the yielding soil shall be taken at not more than one-half of the capacity otherwise allowed.

3. *Soil tests.* When a doubt arises as to the safe sustaining power of the soil upon which a building is to be erected, the superintendent of buildings may order borings to be made, or he may direct the sustaining power of the soil to be tested in accordance with the methods established by the rules of the superintendent of buildings, by and at the expense of the owner of the proposed building. Where a test is made of the sustaining power of the soil the super-

intendent of buildings shall be notified so that he may be present in person or by representative. The record of the test shall be filed in the bureau of buildings.

232 §232. **Foundations, generally.** 1. *General requirements.* Every building, except buildings erected upon solid rock or upon wharves or piers on the water front, shall have foundations of brick, or other approved masonry, iron or steel, laid not less than four feet below the surface of the earth, on the solid ground or level surface of rock, or upon piles or ranging timbers when solid earth or rock is not found.

2. *Protection of metal work.* Where metal is incorporated in or forms part of a foundation, it shall be thoroughly protected from rust by paint, asphaltum, concrete, or by such materials and in such manner as may be approved by the superintendent of buildings.

233 §233. **Footings.** 1. *Materials.* The footings of foundation walls shall consist of footing stones, concrete, reinforced concrete construction or steel grillages. Wood footings may be used if they are entirely below the permanent water level.

2. *Footing stones.* Footing stones shall not be less than 2 by 3 feet, they shall not be less than 8 inches in thickness for walls, nor less than 10 inches in thickness under piers, columns or posts. Footing stones shall be well bedded and laid crosswise, edge to edge.

3. *Concrete footings.* Concrete footings shall be not less than 12 inches thick, except that for frame buildings the thickness may be not less than 8 inches.

4. *Steel grillages.* When grillage beams, resting on a proper concrete bed, are used, they shall be provided with separators and bolts and shall be inclosed and filled solid between with concrete.

5. *Pressure under footings.* For the loads exerting pressure under the footings of foundations the full dead loads and the figured live loads on the lowest tier of columns, piers or walls shall be taken. For this purpose the reduced live loads permitted by subdivision 7 of §53 of this chapter may be used.

6. *Design.* Footings shall be so designed that the loads they sustain per unit of area shall be as nearly uniform as possible and within the bearing capacities of soils established by this article, and that the tresses in the materials shall not exceed those fixed by this chapter. In proportioning the areas of footings for any building the dead loads alone shall be considered, provided, however, that in no case shall the pressure under the footings, as determined

in subdivision 5 of this section, exceed the safe load on the soil established by this article.

§234. Foundation piers and caissons. The foundations of any building may be carried down to rock or hard pan by isolated piers of approved masonry or reinforced concrete, or by open or pneumatic caissons, so designed that the working stresses in the materials and the loads on the rock or hard pan do not exceed those established by this chapter. **234**

§235. Pile foundations. 1. *General requirements.* Piles intended to sustain a wall or building, or any part thereof, shall be driven to a solid bearing, if practicable to do so, and the method of driving shall be such as not to impair their strength. No pile or group of piles shall be loaded eccentrically. Any type of pile construction not provided for in this section shall meet such requirements as may be prescribed by the rules of the superintendent of buildings. **235**

2. *Wood piles.* a. *Quality and size.* Wood piles shall be of approved timber, sound and straight. The diameter at the point shall be not less than 6 inches. The diameter at the butt shall be not less than 10 inches for piles not over 25 feet in length, and not less than 12 inches at the butt for piles of greater length.

b. *Allowable loads.* The safe sustaining power of any wood pile in tons shall be taken as twice the weight of the hammer in tons multiplied by the height of the fall in feet, divided by the average penetration of the pile in inches under the last five blows, plus one, when a drop hammer is used for driving, and as twice the weight of the hammer in tons multiplied by the height of the fall in feet, divided by the average penetration in inches under the last five blows, plus one-tenth, when a steam hammer is used for driving, provided that the driving has reached such a point when successive blows produce approximately equal penetration. No wood pile, however, shall be weighted with a load exceeding 20 tons.

c. *Construction.* The distance between wood piles shall be not more than thirty-six nor less than twenty inches on centers. The tops of wood piles shall be cut off below the permanent water level. When ranging and capping timbers are laid on piles for foundations, they shall be of hard wood not less than six inches thick and properly joined together, and their tops laid below the permanent water level.

d. *Meadow land construction.* When wood piles are used under frame buildings built over the water or on salt meadow land, they may project above the water a sufficient height

to raise the building above high tide, and the building may be placed directly thereon without other foundation.

3. *Concrete piles.* a. Concrete filled steel tubes. For piles consisting of steel tubes filled with concrete, the tubes shall have a diameter of 9 inches or more and a thickness of not less than 5-16 of an inch. The ends of each tube shall be faced perpendicular to its axis. Splices shall be of an approved design and not more than one splice shall be used in the total length of the pile. The length of any such pile shall not exceed forty times the inside diameter of the tube. Such piles shall be driven to a full bearing on rock. The allowable load on any such pile shall not exceed 500 lbs. per square inch on the concrete and 7,500 lbs. per square inch on the steel, provided that in computing the effective area of the steel the outer 1-16 inch of thickness shall be deducted from the thickness of the tube. No interior steel reinforcement shall be used.

b. Piles moulded before driving. Concrete piles moulded and cured before driving shall not be provided with more than 4 per cent. of longitudinal reinforcement. The diameter or lateral dimension of such a pile shall be not less than 8 inches at the foot and shall not average less than 12 inches in the length of the pile. The length shall not exceed twenty times the average diameter when the pile is driven to rock nor forty times the average diameter in any case. When driven to rock the allowable load on any such pile shall not exceed 500 lbs. per square inch on the concrete at the average cross-section and 6,000 lbs. per square inch on the longitudinal reinforcement. If driven to rock, the foot shall be provided with a metal shoe.

c. Piles moulded in place. Concrete piles cast in place shall be so made and placed as to insure the exclusion of any foreign matter, and to secure a perfect full-sized shaft. The average diameter of any such pile in place shall not be less than 11 inches and the diameter of the foot shall be not less than 6 inches. The length shall not exceed thirty times the average diameter. The allowable load shall not exceed 350 lbs. per square inch on the concrete.

d. Allowable loads. When concrete piles are not driven to rock they shall be treated as friction piles and their carrying capacities shall be determined by test in accordance with rules established by the superintendent of buildings; but the stresses herein given for the materials composing them shall not be exceeded in any case.

e. Concrete. The concrete for concrete piles shall be mixed in the proportion of 1 part Portland cement to not more than 2 parts of clean, coarse sand, and 4 parts of broken stone or gravel of a size passing through a 1-inch

ring, with sufficient water to produce a plastic or viscous consistency.

4. *Tests.* When any doubt exists as to the safe sustaining power of piles upon which a building or structure is to be supported, the superintendent of buildings may order a test of the same to be made at the expense of the owner of the proposed building or structure or the person causing the piles to be driven. The record of every such test shall be filed in the bureau of buildings.

§236. **Foundation walls.** 1. *Definition.* Foundation walls shall be construed to include all walls and piers built below the curb level or the nearest tier of beams to the curb, which serve as supports for walls, piers, columns, or other structural parts of a building or structure. **236**

2. *Materials.* Foundation walls shall be built of approved masonry, reinforced concrete or steel protected by masonry. All masonry foundation walls shall be laid in cement mortar.

3. *Thickness.* If built of rubble stone, foundation walls shall be at least 8 inches thicker than the walls next above them, but not less than 18 inches in any case. If built of brick, concrete or hollow building blocks, they shall be at least 4 inches thicker than the walls next above them, but not less than 12 inches thick in any case. For each additional 10 feet, or part thereof, below the depth of 12 feet below the curb level, the thickness shall be increased 4 inches.

4. *Brick.* When brickwork in foundation walls is stepped up from the footings, the offsets, if laid in single courses, shall not exceed $1\frac{1}{2}$ inches, or if laid in double courses, shall not exceed 3 inches.

5. *Stone.* Rubble stone masonry, unless built in dressed, level courses, shall not be used for buildings exceeding 75 feet in height.

6. *Hollow building blocks.* Foundation walls of hollow building blocks may be used only when the upper walls are of frame or hollow building block construction. The hollow spaces in the blocks shall be filled, as the construction progresses, with concrete of not less than 1 part of cement to 9 parts of aggregate.

§237. **Retaining walls.** All walls built to retain or support adjoining earth or rock, including foundation walls subjected to pressure from adjoining earth or rock, shall be constructed of approved masonry or reinforced concrete and so designed that in resisting the pressures to which they are subjected, including any water pressure that may exist, the working stresses of the materials shall not be exceeded, the soil shall not be overloaded and the stability of the wall shall be insured. **237**

238 §238. Excavations other than for construction purposes; manner of making. Every person, firm or corporation excavating any lot or lots, or part of a lot, in the boroughs of Manhattan and Brooklyn for the purpose of taking therefrom the soil, earth, sand or other material, shall make such excavation in such maner that injury shall not be done to neighboring properties or to the street upon which such lot or lots abut nor to the public health and comfort. Violation of this ordinance shall constitute a misdemeanor. The superintendent of buildings shall make rules and regulations to carry into effect the purpose of this ordinance.

*ARTICLE 13.

Masonry Construction.

Section 250. Definitions.	257. Wall thicknesses.
251. Construction.	258. Existing walls.
252. Brick masonry.	259. Parapet walls.
253. Stone masonry.	260. Hollow walls.
254. Hollow building block masonry.	261. Recesses and chases.
255. Ashlar.	262. Miscellaneous requirements.
256. Mortar.	263. Masonry arches.

250 §250. Definitions. For the purposes of this chapter:

- a. Approved masonry means masonry constructed in accordance with the requirements of this article, of the materials specified therein;
- b. Bearing wall means any wall which carries any load other than its own weight;
- c. Height, as applied to a wall, means the vertical distance to the top measured from the foundation wall, or from a girder or other immediate support of such wall.

251 §251. Construction. 1. *Materials.* Approved masonry shall be constructed of brick, stone, concrete, or hollow building blocks, or a combination of these materials as provided in this article. It shall be properly and solidly bonded with joints filled with mortar.

2. *Protection against freezing.* No masonry shall be built when the temperature is below 28 degrees F. on a rising temperature or 32 degrees on a falling temperature at the point where the work is in progress. No frozen materials shall be built upon.

3. *Wetting brick.* All brick shall be thoroughly wet just previous to being laid, except in freezing weather, when they shall be thoroughly dry.

4. *Erection of walls and piers.* Masonry walls and piers shall be built to a line and carried up plumb. In each story

*Amended by ord. adopted July 6, 1915; effective October 6, 1915.

the walls shall be carried up full thickness to the top of the beams above. No wall of any building shall be built up more than two stories in advance of any other portions of the walls of the building, provided that where walls are carried independently by girders at each floor this provision shall not apply. All walls that meet or intersect shall be bonded or anchored to each other in an approved manner. Any pier having less than four square feet of cross section when located at an intersection with a wall shall be bonded into and built as part of that wall.

5. *Piers.* Every pier supporting a girder, arch, column or a lintel spanning an opening over 10 feet, upon which a wall rests, shall be built of approved masonry. Every such pier having a height of more than ten times its least dimension, and every isolated pier built of brick or hollow building blocks, having less than 9 square feet of cross section shall, at vertical intervals of not more than 30 inches, have built into it bond stones not less than 4 inches thick, or approved perforated steel or cast iron plates of the full size of the pier. Isolated piers shall not exceed in height ten times their least dimension.

6. *Arches and lintels.* Door and window openings in walls shall be spanned by arches, or lintels having a bearing at each end of not less than 5 inches. In walls of non-fire-proof buildings, when the thickness of the lintel is less than the thickness of the wall to be supported, a timber lintel may be placed on the inside of the wall resting at each end not more than 2 inches on the wall, and chamfered or cut to serve as centre for a rowlock or keyed arch. When the opening is more than 6 feet in width, templates shall be provided under the ends of lintels resting on the walls, unless the pressure under the lintel does not cause a working stress in the masonry greater than specified in article 3 of this chapter.

7. *Timber in walls.* No timber, except lintels provided for in subdivision 6 of this section, and nailing blocks not over 8 inches in length, shall be placed in any masonry wall.

8. *Bracing during construction.* The walls and beams of every building during erection or alteration shall be strongly braced from the beams of each story, and when required shall also be braced from the outside until the building is enclosed.

§252. **Brick masonry.** Except when laid in Flemish bond or faced with running bond, every sixth course in brick walls shall be a heading course. When running bond is used, every sixth course shall be bonded into the backing by cutting the course of the face brick and putting in diagonal headers behind the same, or by splitting the face brick in half and backing the same with a continuous row of headers.

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Where face brick is used of a different thickness from the brick used for backing, the courses of the face brick and backing shall be brought to a level at intervals of not more than six courses in height of the backing, and the face brick shall be properly tied to the backing by a full heading course of the face brick or other approved method. Face brick shall be laid at the same time as the backing, and shall in no case be laid after the backing is in place.

253 §253. **Stone masonry.** 1. *Workmanship.* No stone shall be laid in a wall in any other position than on its natural bed. Stones shall be firmly bedded in cement mortar and all spaces and joints thoroughly filled. No stone shall be used that does not bond or extend into the wall at least 6 inches. All headers shall be at least 12 inches in width and 8 inches in thickness, and consist of good flat stones.

2. *Bond.* All stone walls 24 inches or less in thickness shall have at least one header extending through the wall in every 3 feet in height from the bottom of the wall, and in every 3 feet in length, and if over 24 inches in thickness, shall have one header for every 6 superficial feet on both sides of the wall, laid on top of each other to bond together, and running into the wall at least 2 feet.

3. *Limitation.* Rubble stone walls, except for foundations, shall not be used in buildings over 60 feet high.

254 §254. **Hollow building block masonry.** 1. *Construction.* Where walls of hollow building blocks are decreased in thickness, the blocks in the top course of the thicker wall shall be filled solidly with concrete or covered with slabs of hard burned terra cotta or concrete at least 1 inch in thickness. Terra cotta or concrete templates of approved size and thickness shall be placed under all floor beams and girders to properly distribute the loads.

2. *Veneering.* Hollow building blocks of terra cotta used in exterior walls shall be extra hard burned or veneered with brick, architectural terra cotta, or stone, or covered on the exposed surface with at least three-quarters of an inch of Portland cement stucco. When walls of hollow building blocks are veneered with brick, the facing shall be bonded to the backing with headers every sixth course of the brickwork.

3. *Limitation.* Walls of hollow building blocks shall not be used in buildings over forty feet in height, except that in buildings of skeleton construction terra cotta blocks with shells and webs not less than one inch thick, faced with at least four inches of brickwork properly bonded as specified in this section, may be used.

255 §255. **Ashlar.** Stone, architectural terra cotta or other approved material, used for the facing of any wall and

known as ashlar, shall be not less than 4 inches thick. Such ashlar shall be anchored to the wall in an approved manner. Within the fire limits ashlar shall not be used in any wall the total thickness of which is less than 12 inches.

§256. **Mortar.** In the following masonry construction no mortar other than cement mortar shall be used: **256**

- a. Foundation walls and footings;
- b. Rubble stone walls;
- c. Hollow building block construction;
- d. Walls faced with ashlar;
- e. Isolated piers;
- f. Curtain walls;
- g. Exterior walls of skeleton structures;
- h. Parapet walls;
- i. Chimneys above roofs;
- j. Linings of existing walls.

§257. **Wall thicknesses.** 1. *Application.* a. The thickness of masonry walls shall in all cases, irrespective of any other requirements of this section, be sufficient to keep the stresses in the masonry within the working stresses prescribed by this chapter. **257**

b. The heights herein specified, unless otherwise clearly indicated, are the heights of walls as defined in §250.

c. In all cases the wall thicknesses herein specified shall be applied to the nearest tier of beams to the height specified.

d. Nothing in this section shall prevent the use in any wall of the same amount of material in piers and buttresses as is required for the thicknesses herein prescribed.

e. The unsupported height of any wall or part thereof shall not exceed twenty times the thickness of such unsupported part, unless reinforced by adequate cross-walls, buttresses or columns.

2. *Residence buildings.* Except as hereinafter provided, the thicknesses of masonry walls of residence buildings hereafter erected shall be not less than the following:

a. When over 75 feet in height, 12 inches for the uppermost 25 feet, 16 inches for the next lower 35 feet, 20 inches for the next lower 40 feet, with a 4-inch increase for each additional lower section of 40 feet;

b. When not over 75 feet in height, 12 inches for the uppermost 55 feet, and 16 inches below that.

3. *Public and business buildings.* Except as hereinafter provided, the thickness of masonry walls of public and business buildings hereafter erected shall be not less than the following:

a. When over 75 feet in height, 16 inches for the uppermost 25 feet, 20 inches for the next lower 35 feet, 24 inches for the next lower 40 feet, and increasing 4 inches for each additional lower section of 40 feet;

- b. When over 60 feet and not over 75 feet in height, 16 inches for the uppermost 50 feet, and 20 inches below that,
- c. When over 40 feet and not over 60 feet in height, 12 inches for the uppermost 20 feet, and 16 inches below that;
- d. When not over 40 feet in height, 12 inches throughout.

4. *Increased thickness, when required.* a. Every bearing wall with face brick bonded with clip courses or ties, and every bearing wall faced with ashlar shall have a total thickness of at least 4 inches more than otherwise required unless the ashlar is at least 8 inches thick in every alternate course and bonded to the wall.

b. Every wall built of rubble stone shall have a thickness at least 4 inches more than required by subdivisions 2 and 3 of this section, but no such stone wall shall be less than 18 inches thick.

c. When the clear span between bearing walls is over 26 feet, such walls shall be increased 4 inches in thickness for every 12½ feet or part thereof that said span is over 26 feet.

d. All walls over 105 feet long between cross-walls or proper piers or buttresses, shall be increased in thickness over the minimum requirement at least 4 inches for every 105 feet, or part thereof, over 105 feet in length.

e. If the horizontal section through a bearing wall shows more than thirty per cent. area of flues and openings, such part of the wall where the excessive openings exist shall be increased four inches in thickness over minimum requirements for every fifteen per cent. or fraction thereof, of flue or opening area in excess of thirty per cent., provided that if such wall be laid up in Portland cement mortar the increase in thickness shall be required only when the area of flues and openings exceeds forty-five per cent.; or, instead of increasing such wall in thickness, adequate piers or buttresses shall be provided.

f. In case any wall is increased in thickness in accordance with one of the requirements of this subdivision, it will not be necessary to further increase the thickness to meet another requirement of this subdivision, unless, in the judgment of the superintendent of buildings, the safety of the wall demands it.

5. *One-story buildings.* In one-story buildings the walls may be 8 inches thick, provided that no such wall exceeds 50 feet in length between cross-walls or adequate buttresses.

6. *Small residence buildings.* In any residence building bearing walls of brick laid in Portland cement mortar may be 8 inches in thickness, provided such buildings are not more than 40 feet in height and that the 8 inch walls do not exceed 50 feet in length between cross-walls or adequate buttresses,

except that when the walls are not pierced by openings of any kind such length may be 60 feet. (Amended as above, July 13, 1920.)

7. *Residence buildings outside the fire limits.* Outside of the fire limits the thicknesses of walls of hollow building blocks shall be not less than 8 inches for the uppermost 20 feet, 10 inches for the next lower 10 feet, and 12 inches for the next lower 10 feet.

8. *Non-bearing walls.* The thicknesses of non-bearing walls of residence buildings, or of public and business buildings, may be 4 inches less than those specified, respectively, in subdivisions 2 and 3 of this section for walls of corresponding height, provided that no such wall shall be less than 12 inches thick nor extend for more than 55 feet in height without any increase of thickness.

9. *Curtain walls.* Non-bearing walls built between piers or metal columns shall be not less than 12 inches thick for the uppermost 60 feet of height, increasing 4 inches in thickness for each next lower section of 60 feet.

10. *Walls of skeleton structures.* Masonry walls supported at each story by girders may be 12 inches thick for the entire height of the building.

11. *Interior walls.* a. In residence buildings, interior walls of brick or concrete, whether bearing or non-bearing walls, may be 8 inches thick for the uppermost 55 feet and 12 inches for the next lower 20 feet, provided that no such wall shall exceed 75 feet in height nor 30 feet in length between cross-walls or buttresses.

b. Interior walls over 75 feet in height may be reduced in thickness in such proportion to the number of cross-walls, piers or buttresses, and their nearness to each other, as may be deemed safe by the superintendent of buildings, provided, however, that such walls shall be not less than 12 inches thick at the top, and shall be gradually increased in thickness to the bottom.

§258. *Existing walls.* 1. *When use is permitted without change.* 258 Walls heretofore built, whose thickness at the time of their erection was in accordance with the requirements of the then existing laws, but which are not in accordance with the requirements of this chapter, may be used without change, if in good condition, in buildings hereafter erected or altered, provided the stresses in the masonry do not exceed the working stresses prescribed by this chapter and the height of such walls be not increased except in so far as may be necessary to make the height uniform.

2. *Lining walls.* In case it is desired to use and increase the height of any existing wall which is less in thickness than

required by this chapter, such wall shall be reinforced by a lining of brickwork so that the combined thickness with the old wall shall be not less than 4 inches more than the thickness required for a new wall corresponding with the total height of the wall when increased in height, provided that such lining shall not be used to a greater height than forty feet and that such wall shall not be increased to exceed seventy-five feet in height. Such lining shall be supported on proper foundations, and shall be not less than eight inches in thickness, and thoroughly anchored to the old wall with suitable anchors, placed two feet apart and properly fastened or driven into the old wall in rows, alternating vertically and horizontally with each other, the old wall being first cleaned of plaster or other coatings where any lining is to be built against the same. No wall, however, shall be lined unless in good condition and not until the approval of the superintendent of buildings has been given.

259 §259. **Parapet walls.** All exterior and division or party walls of masonry over 15 feet high, except in detached buildings with overhanging roofs, or where such walls are to be finished with cornices, gutters or crown mouldings, shall have parapet walls carried above the roof. For residence buildings parapet walls shall be not less than eight inches thick and carried at least two feet above the roof, except that in party walls between buildings of the same height and not over forty feet in height, such parapet shall be not less than eight inches above the roof. For public and business buildings parapet walls shall be not less than twelve inches thick, and carried at least three feet above the roof. All parapet walls shall be coped with stone, terra cotta, concrete or cast iron.

260 §260. **Hollow walls.** In all walls that are built hollow the same amount of masonry shall be used in their construction as if they were built solid, as in this chapter provided, and no hollow wall shall be built unless the parts of same are connected by proper ties, either of brick, stone or iron, placed not over 24 inches apart.

261 §261. **Recesses and chases.** 1. *Stairway and elevator recesses.* Recesses for stairways or elevators may be left in the foundation walls of buildings, but in no case shall the walls be of less thickness than the walls of the fourth story, unless reinforced by additional piers with iron or steel girders, or iron or steel columns and girders, securely anchored to walls on each side.

2. *Alcoves.* Recesses for alcoves and similar purposes shall have not less than 8 inches of brickwork at the back of such recesses, and such recesses shall be not more than 8 feet in width, and shall be arched over or spanned with iron

or steel lintels, and not carried up higher than 18 inches below the bottom of the beams of the floor next above.

3. *Pipe-chases.* No chase for pipes or other purpose shall extend into any wall more than one-third of its thickness. No horizontal chase in any wall shall exceed 4 feet in length. No chase shall be made within the required area of any pier. Chases shall not be cut in walls of hollow block construction, but may be provided by properly formed blocks. Chases shall be filled up with solid masonry within the floor thickness at each story.

4. *Limitations.* The aggregate area of recesses and chases in any wall shall not exceed one-fourth of the whole area of the face of the wall on any story. No recess shall be made within a distance of 6 feet from any other recess in the same wall.

§262. **Miscellaneous requirements.** 1. *Hollow brick.* **262**
The inside 4 inches of walls may be built of hard-burnt hollow brick, properly tied and bonded into the walls and of the dimensions of ordinary bricks.

2. *Furring.* Where hollow blocks of any kind are used as furring for walls, they shall not be included in the measurement of the thickness of such walls.

3. *Fire Stops.* In all walls furred with wood, the brickwork between the ends of wood beams shall project the thickness of the furring beyond the inner face of the wall for the full depth of the beams.

§263. **Masonry arches.** All masonry arches shall be **263**
capable of sustaining the weight and pressure which they are to carry, and the stress at any point shall not exceed the working stresses prescribed by this chapter. Tie rods shall be used where necessary to resist the thrust.

*ARTICLE 14.

Wood Construction.

Section 280. Wood beams and girders.

281. Wood columns and posts.

282. Bolting.

283. Stud partitions.

284. Fire stops.

§280. **Wood beams and girders.** 1. *Width of beams.* **280**
No wood floor or roof beam used in any building hereafter erected within the fire limits shall be less than three inches thick.

2. *Supports.* Every wood beam, except header and tail beams, shall have bearings of at least four inches. The

*As amended by ord. adopted Apr. 20, 1915; effective May 1, 1915.

ends of all such beams, where they rest on brick walls, shall be cut to a bevel of three inches in their depth. In no case, except in frame buildings, shall either end of a floor or roof beam be supported on stud partitions. All wood trimmer, header and tail beams over four feet in length, unless supported on a wall or girder, shall be hung in approved metal stirrups or hangers.

3. *Bridging.* All wood floor and roof beams shall be properly braced with cross bridging. The distance between bridging or between bridging and bearing shall not exceed eight feet.

4. *Anchoring.* a. Beams in walls. Each tier of beams shall be anchored to the walls at intervals of not more than six feet with approved steel or wrought iron anchors.

b. Beams on girders. The ends of wood beams resting upon girders shall be butted end to end and strapped by steel or wrought iron straps in the same beam as the wall anchors, or they may lap each other at least 12 inches and be well spiked or bolted together where lapped.

c. Girders. Wood girders shall be anchored to the walls and fastened to each other by suitable steel or wrought iron straps.

d. Anchor strips. Each tier of wood beams running parallel to enclosing walls shall be anchored to such walls with approved anchor strips, and similarly to every pier.

5. *Fire prevention.* a. Trimming around flues. All wood beams shall be trimmed away from all flues and chimneys. The header and trimmer beams shall not be less than 4 inches from the outside face of the chimney. Any header beams supporting a trimmer arch in front of a fireplace shall be not less than 20 inches from the face of the chimney breast.

b. Separation in walls. Every wooden beam in any masonry or fire wall shall be separated from any other beam in the wall by at least four inches of solid masonry.

281 §281. **Wood columns and posts.** All wood columns and posts shall be squared at the ends perpendicular to their axis, and cap and base plates shall be provided. Where the cap plate of a wood column or post supports a wood girder, any column above shall bear directly on the cap and shall not rest on the girder. Additional iron or steel cheek plates shall be placed between the cap and base plates and bolted to the girders, when required to transmit the loads with safety.

282 §282. **Bolting.** All bolts in wood construction shall be provided with washers of such proportions that the compression on the wood at the face of the washer will not exceed the working stresses prescribed in this chapter.

§283. **Stud partitions.** Stud partitions which rest directly over each other and are not parallel with wood floor beams shall run down between the wood floor beams and rest on the top plate of the partition below, and shall have the studding filled in solid between the uprights to the depth of the floor beams with suitable incombustible materials. **283**

§284. **Fire stops.** 1. *Studded-off spaces.* Where walls are studded off, the space between the inside face of the wall and the studding directly over such space shall be fire-stopped with fireproof material, for a depth of not less than 4 inches, securely supported; or the beams directly over the studded-off space shall be deafened with not less than 4 inches of fireproof material. **284**

2. *Wainscoting.* The surface of the wall or partition behind wainscoting shall be plastered flush with the grounds and down to the floor line.

*ARTICLE 15.

Iron and Steel Construction.

- Section 300. Cast iron columns.
301. Steel columns.
302. Column bases.
303. Lintels, beams and girders.
304. Framing and connecting.
305. Trusses.
306. Riveting.
307. Bolting.
308. Tie rods.
309. Templates.
310. Protection against corrosion.
311. Protection against fire.
312. Metal fronts.
313. Use of old materials.

§300. **Cast iron columns.** 1. *Dimensions.* Cast iron columns shall not have a smaller outside diameter or side than 5 inches, nor shall they have an unsupported length greater than that allowed by §52 of this chapter. **300**

2. *Thickness of metal.* The thickness of metal shall be not less than one-twelfth the diameter or least dimension of cross section, but never less than three-fourths of an inch. When necessary, the thickness shall be increased near the end so that the core of a column below a joint shall not be larger than the core of the column above, in which case the metal may be tapered down for a distance of not

*Amended by ord. adopted Apr. 20, 1915; effective May 1, 1915.

less than 6 inches; or a joint plate may be inserted of sufficient strength to distribute the load. Wherever the core of a cast iron column has shifted more than one-fourth the thickness of the shell, the thickness of the metal all around shall be assumed equal to the thinnest part.

3. *Workmanship.* a. Joints. Cast iron columns shall be machine faced at the end to a true surface perpendicular to the axis. They shall be bolted together with at least four bolts, not less than three-quarters of an inch in diameter, passing through the flanges, the bolts being of sufficient length to allow the nuts to be screwed up tightly; and as each column is placed in position, the bolts shall also be placed in position and the nuts shall be screwed up tightly.

b. Flanges. Where cast iron columns rest one on top of another, the top flange of the lower column shall project on all sides not less than three inches from the outer surfaces of the column, and the shape and dimensions of the bottom flange of the upper column shall be the same as those of the top flange of the lower column, except that when a column is placed on a lot line, the flanges on the side toward such lot line may be omitted, if not required for bolting. Flanges shall be at least one inch in thickness when finished, and reinforced by fillets and brackets when necessary.

c. Bolt holes. All holes in cast iron columns shall be drilled. The diameter of the holes shall not exceed that of the bolts by more than one-sixteenth of an inch.

4. *Limitation.* Cast iron columns shall not be used in any case where the load is so eccentric as to cause tension in the cast iron. Nor shall they be used for such parts of the structural frame of buildings which are required to resist stress due to wind.

5. *Inspection.* No cast iron column shall be set in place until it has passed an inspection satisfactory to the superintendent of buildings. Wherever blowholes or imperfections are found in a cast iron column, which reduce the area of the cross section at that point more than 10 per cent. such columns shall be condemned. Cast iron columns not cast with one open side or back, shall have three-eighth inch holes drilled in the shaft, to exhibit the thickness of the castings, as may be required by the superintendent of buildings. Cast iron columns shall not be painted before inspection.

301 §301. **Steel columns.** 1. *Length.* No steel columns shall have an unsupported length greater than that allowed by §52 of this chapter.

2. *Design.* No part of a steel column shall be less than one-quarter of an inch thick. No material, whether in the body of the column or used as a lattice bar or stay plate, shall be used of less thickness than one thirty-second of its

unsupported width, measured between centers of rivets transversely, or one-sixteenth the distance between centers of rivets in the direction of the stress. Stay plates are to have not less than 4 rivets, and are to be spaced so that the ratio of length to the least radius of gyration of the parts connected does not exceed 40, the distance between nearest rivets of two stay plates in this case being considered as length. In built-up columns the thickness of any outstanding member shall not be less than one-twelfth the width of the outstanding portion.

3. *Joints.* The ends of all columns shall be faced to a plane surface at right angles to the axis of the columns. Wherever practicable the connection between them shall be made with splice plates. When splice plates cannot be used a connection formed of plates and angles, designed properly to distribute the stress, may be used. Where any part of the section of a column projects beyond that of the column above or below, the difference shall be made up by filling plates secured to the column by the proper number of rivets. All column connections shall be riveted.

§302. **Column bases.** Whenever necessary to properly distribute the load, iron or steel shoes shall be used under the bottom tier of columns. Cast iron bases or shoes shall be not less than one inch thick in any part. If any side of the bed plate exceeds three feet in length, a reinforcing flange at least four inches high shall be provided around the outer edges. All cast iron bases or shoes shall be planed on top, and, when resting on steel girders, on both top and bottom. Bases or shoes of steel plates and shapes shall be designed to meet the requirements of §301 of this chapter. Nothing in this section shall prevent iron or steel bases being made as a part of the columns. **302**

§303. **Lintels, beams and girders.** 1. *Cast iron lintels.* Cast iron lintels shall not be less than three-quarters of an inch in thickness at any point, and shall not be used for spans exceeding six feet. **303**

2. *Double beams as girders.* When rolled steel beams are used in pairs to form a girder, they shall be connected together by separators at intervals of not more than 5 feet. All beams 12 inches and over in depth shall have at least 2 bolts to each separator.

3. *Riveted girders.* The thickness of the web in riveted girders shall be not less than one one-hundred-and-twentieth of the distance between flange angles, and in no case less than one-quarter of an inch. If the unsupported depth of the web plate exceeds 60 times its thickness, stiffeners shall be used at intervals not exceeding 120 times the thickness of

the web. Stiffeners of sufficient strength shall also be provided over supports and under concentrated loads.

4. *Lateral bracing.* The compression flanges of steel beams and girders shall be secured against buckling, if the length exceeds twenty times their width unless the working stresses in such flanges are proportioned to the ratio of length to width as provided for steel columns in §52 of this chapter.

304 §304. **Framing and connecting.** All columns, beams, trusses and all other iron or steel work shall be suitably framed and connected together and to the walls. All beams framed into and supported by other beams or girders shall be connected thereto by angles or knees of a proper size and thickness with sufficient bolts or rivets to transmit the entire load, or by seats of sufficient strength and the necessary angle or knees to hold the beam in place. Beams resting on girders shall be securely riveted or bolted to the same.

305 §305. **Trusses.** 1. *General design.* Trusses shall be of such design that the stresses in each member can be calculated.

2. *Lateral bracing.* All trusses shall be held rigidly in position by efficient systems of lateral or sway bracing.

3. *Tension members.* For tension members, the actual net area only, after deducting rivet holes one-eighth inch larger than the rivets, shall be considered as resisting the stress.

4. *Compression members.* Compression members in pin-connected trusses shall be designed so that the stresses shall not exceed 75 per cent. of the permissible working stresses for columns.

5. *Eye bars.* The heads of all eye bars shall be made by upsetting or forging. No weld will be allowed in the body of the bar. Steel eye bars shall be annealed. Bars shall be straight before boring. Eyes and screw ends shall be so proportioned that upon test to destruction, fracture will take place in the body of the member.

6. *Pins.* All pins shall be accurately turned. All pin-holes shall be bored true and at right angles to the axis of the members, and must fit the pins within one-thirty-second of an inch.

306 §306. **Riveting.** 1. *When required.* All component parts of built-up columns, girders and trusses, including any splices in the same, shall be riveted.

2. *Spacing of rivets.* The pitch of rivets shall never be less than three diameters of the rivet, nor more than 6 inches. In the direction of the stress it shall not exceed 16 times the least thickness of the outside member. At right angles to the stress it shall not exceed 32 times the least thickness of the outside member.

3. *Distance from edge.* The distance from centre of a rivet hole to the edge of the material shall not be less than:

$\frac{3}{4}$ of an inch for $\frac{1}{2}$ -inch rivets;

1 inch for $\frac{5}{8}$ -inch rivets;

$1\frac{1}{4}$ inches for $\frac{3}{4}$ -inch rivets;

$1\frac{1}{2}$ inches for $\frac{7}{8}$ -inch rivets;

$1\frac{3}{4}$ inches for 1-inch rivets.

4. *Length.* The lengths of rivets, between heads, shall not exceed five times the diameters.

5. *Driving.* All shop rivets, wherever practicable, shall be machine driven. Rivets shall fill the holes completely. Rivet heads shall be hemispherical and concentric with the axis of the rivet.

§307. Bolting. 1. *When permitted.* Where riveting is **307**
not required by the provisions of this chapter connections may be effected by bolts, of mild steel with United States standard threads. The threads shall be full and clean, the nut shall be truly concentric with the bolt, and the thread shall be of sufficient length to allow the nut to be screwed up tightly.

2. *Suspenders.* When the bolts are used for suspenders, the working stress shall be reduced to 9,000 pounds per square inch of net area, and the load shall be transmitted into the head or nut by suitable washers.

§308. Tie rods. Whenever tie rods may be required by **308**
the provisions of this chapter in connection with iron and steel construction they shall be at least three-fourths of an inch in diameter. Holes for tie rods in floor arches shall be placed as near the thrust of the arch as practicable. The distance between tie rods in floors or roofs shall not exceed 8 times the depth of the beams nor 8 feet in any case.

§309. Templates. When any lintel, beam, girder or **309**
truss is supported at either end by a wall or pier, it shall be properly anchored thereto and shall rest upon a template or shoe of cast iron, steel or stone of such design and dimensions as to safely distribute its load on the masonry, except that when beams, not exceeding 6 inches in depth, are placed not more than 30 inches on centres, no templates shall be required.

§310. Protection against corrosion. 1. *Painting.* All **310**
structural iron and steel work shall be cleaned of all scale, dirt and rust and be thoroughly coated with one coat of paint before erection, except that cast iron columns shall not be painted until after inspection. Where surfaces in riveted work come in contact, they shall be painted before assembling. After erection all work shall be painted at least one additional coat of a different shade than the first.

2. *Subaqueous work.* All iron or steel used under water shall be encased in concrete.

311 §311. **Protection against fire.** Any iron or steel construction hereafter placed in any building to support a wall or part thereof or a sidewalk, shall be protected with not less than two inches of fireproof material securely applied, except that in non-fireproof buildings such protection shall not be required for columns immediately above the sidewalk level supporting walls fronting on streets.

312 §312. **Metal fronts.** Metal fronts or facias hereafter erected on the exterior of buildings over one-story high shall be backed up or filled in with masonry not less than 8 inches thick.

313 §313. **Use of old materials.** Nothing in this article shall prevent the use of old steel or wrought iron shapes, provided that the working stresses used do not exceed three-fourths of those specified in this chapter for steel, and that the provisions of this article are otherwise complied with.

Nothing in this article shall require any alteration in any iron or steel construction already fabricated under the requirements of provisions heretofore in force. (Includes Sec. 3 of Ord. approved May 1, 1915.)

*ARTICLE 16.

Reinforced Concrete Construction.

Section 330. Definitions.

331. Application.

332. Concrete.

333. Reinforcement.

334. Working stresses.

335. Slabs and beams.

336. Use of fillers in floor construction.

337. Columns.

338. Walls.

339. Protection of reinforcement.

340. Load tests.

341. Rules.

330 §330. **Definitions.** For the purposes of this article:

a. Reinforced concrete means any construction in accordance with the provisions of this article, of approved concrete in which steel is imbedded in such a manner as to increase its strength;

b. The span of beams and slabs means the distance from centre to centre of supports, but not necessarily exceeding

*Added by ord. adopted July 6, 1915; effective October 6, 1915.

the clear span plus the depth of beam or slab, provided that brackets shall not be considered as reducing the clear span;

c. The length of columns means the maximum unsupported length;

d. The effective area of a concrete column with lateral reinforcement means the area of concrete within the hoops or bands.

§331. **Application.** Reinforced concrete may be used **331**
for all types of construction, provided the material and design conform to the requirements of this article and such rules as may be adopted by the superintendent of buildings to secure safety in construction and uniformity in practice.

§332. **Concrete.** 1. *Mixture.* The concrete for reinforced concrete structures shall consist of a wet mixture of **332**
one part of Portland cement to not more than six parts of aggregate, fine and coarse, either in the proportion of one part of cement, two parts of fine aggregate and four parts of coarse aggregate, or in such proportion that the resistance of the concrete to crushing shall not be less than two thousand pounds per square inch after hardening for twenty-eight days.

2. *Aggregate.* a—Fine. Fine aggregate shall consist of sand, crushed stone or gravel screenings, passing when dry a screen having one-quarter-inch diameter holes, and not more than six per cent. passing a sieve having one hundred meshes per lineal inch, and of such quality that mortars composed of one part Portland cement and three parts fine aggregate by weight when made into briquettes will show a tensile strength of at least two hundred and forty pounds per square inch at twenty-eight days.

b—Coarse. Coarse aggregate shall consist of crushed stone or gravel which is retained on a screen having one-quarter-inch diameter holes and graded in size from small to large particles. The maximum size shall be such that all the aggregate will pass through a one-and-one-quarter-inch diameter ring. All aggregate shall be clean, hard, durable, and free from deleterious material.

§333. **Reinforcement.** The steel reinforcement shall **333**
conform to such requirements as may be adopted by the superintendent of buildings, or, in the absence of such requirements, to the standard specifications of the American Society for Testing Materials for steel reinforcement bars. Nothing herein contained shall prevent the use of steel wire or fabric for the reinforcement of slabs, for lateral reinforcement of columns, or for resistance to shrinkage and temperature stresses.

334 §334. **Working stresses.** Reinforced concrete structures shall be so designated that the stresses in pounds per square inch shall not exceed the following:

Extreme fibre stress on concrete in compression....	650
Concrete in direct compression.....	500
Shearing stress in concrete when all diagonal tension is resisted by steel.....	150
Shearing stress in concrete when diagonal tension is not resisted by steel.....	40
Bond stress between concrete and plain reinforcement	80
Bond stress between concrete and approved deformed bars.....	100
Tensile stress in steel reinforcement.....	16,000
Tensile stress in cold drawn steel wire or fabric, 35 per cent. of the elastic limit but not more than.....	20,000

In continuous beams the extreme fibre stress on concrete in compression may be increased fifteen per cent., adjacent to supports.

The ratio of the moduli of elasticity of 1 : 2 : 4 stone or gravel concrete and steel shall be taken as one to fifteen. The ratio of the moduli of elasticity of 1 : 1½ : 3 stone or gravel concrete and steel shall be taken as one to twelve.

335 §335. **Slabs and beams.** 1. *Thickness.* Slabs shall not be less than four inches in thickness for floors and three and one-half inches for roofs.

2. *Tee-beams.* Where adequate bond between slab and web of beam is provided, the slab may be considered as an integral part of the beam provided its effective width shall not exceed on either side of the beam one-sixth of the span length of the beam nor be greater than six times the thickness of the slab on either side of the beam, the measurements being taken from edge of web.

3. *Placing of reinforcement.* All reinforcement shall be accurately located and secured against displacement. The reinforcement for slabs shall not be spaced farther apart than two and one-half times the thickness of the slab.

4. *Web reinforcement.* Members of web reinforcement shall be so designed as adequately to take up throughout their length all stresses not taken up by the concrete. They shall not be spaced to exceed three-fourths of the depth of the beam in that portion where the web stresses exceed the allowable value of concrete in shear. Web reinforcement, unless rigidly attached, shall be placed at right angles to the axis of the beam and carried around the tension members.

336 §336. **Use of fillers in floor construction.** When hollow tile, concrete blocks or other acceptable fillers are used in any reinforced concrete floor construction, the reinforced con-

crete members of such floor construction shall be designed in accordance with the provisions of this article to take the entire loads, provided, however, that when the fillers do not exceed sixty per cent. of the construction, not more than two and one-half inches of concrete shall be required over the fillers.

§337. **Columns.** 1. *With longitudinal reinforcement* 337
only. In concrete columns, having not less than one-half nor more than four per cent. of vertical reinforcement secured against displacement by one-quarter-inch steel ties placed not farther apart than fifteen diameters of the vertical rods nor more than twelve inches, the allowable load shall be five hundred pounds per square inch on the concrete, plus seven thousand five hundred pounds on the vertical reinforcement.

2. *With longitudinal and lateral reinforcement.* In concrete columns, having not less than one-half nor more than two per cent. of hoops or spirals spaced not farther apart than one-sixth of the diameter of the enclosed column nor more than three inches, and having not less than one nor more than four per cent. of vertical reinforcement, the allowable load shall be five hundred pounds per square inch on the effective area of the concrete, plus seven thousand five hundred pounds per square inch on the vertical reinforcement, plus a load per square inch on the effective area of the concrete equal to two times the percentage of lateral reinforcement multiplied by the tensile stress in the lateral reinforcement prescribed by §334 of this article, the percentage of lateral reinforcement being the volume of the hoops or spirals divided by the volume of the enclosed concrete in a unit length of column. The hoops or spirals shall be rigidly secured to at least four verticals to insure uniform spacing.

3. *Structural steel and concrete.* In columns of structural steel, thoroughly encased in concrete not less than four inches thick and reinforced with not less than one per cent. of steel, the allowable load shall be sixteen thousand pounds per square inch on the structural steel, the percentage of reinforcement being the volume of the reinforcing steel divided by the volume of the concrete enclosed by the reinforcing steel. Not more than one-half of the reinforcing steel shall be placed vertically. The reinforcing steel shall not be placed nearer than one inch to the structural steel or to the outer surface of the concrete. The ratio of length to least radius of gyration of structural steel section shall not exceed one hundred and twenty.

4. *When richer concrete is used.* In concrete columns the compression on the concrete may be increased twenty per cent. when the fine and coarse aggregates are carefully se-

lected and the proportion of cement to total aggregate is increased to one part of cement to not more than four and one-half parts of aggregate, fine and coarse, either in the proportion of one part of cement, one and one-half parts of fine aggregate and three parts of coarse aggregate, or in such proportion as will secure the maximum density. In such cases, however, the compressive stress in the vertical steel shall not exceed seven thousand two hundred pounds per square inch.

5. *Eccentric loads.* Bending stresses due to eccentric loads shall be provided for by increasing the section of concrete or steel until the maximum stress shall not exceed the allowable working stress.

6. *Length.* In columns, the ratio of length to least side or diameter shall not exceed fifteen, but in no case shall the least side or diameter be less than twelve inches.

338 §338. *Walls.* Enclosure walls of reinforced concrete shall be securely anchored at all floors. The thickness shall not be less than one-twenty-fifth of the unsupported height, but in no case less than eight inches. The steel reinforcement, running both horizontally and vertically, shall be placed near both faces of the wall; the total weight of such reinforcement shall be not less than one-half pound per square foot of wall.

339 §339. *Protection of reinforcement.* The reinforcement in columns and girders shall be protected by a minimum of two inches of concrete; in beams and walls by a minimum of one and one-half inches; in floor slabs by a minimum of one inch; and in footings by a minimum of four inches of concrete.

340 §340. *Load tests.* The builder may be required to make load tests on any portion of a reinforced concrete structure within a reasonable time after erection. The tests shall be made under the direction of the superintendent of buildings, and shall show that the construction will sustain safely a load of one and three-quarter times the live load for which it was designed.

341 §341. *Rules.* The rules governing reinforced concrete in building construction, heretofore adopted by the superintendent of buildings, so far as they are consistent with the provisions of this article, shall remain effective until amended or repealed by the superintendent of buildings.

*ARTICLE 17.

Fireproof Construction.

- Section 350. Walls.
351. Iron and steel construction.
352. Masonry.
353. Reinforced concrete.
354. Floors and roofs.
355. Partitions.
356. Interior finish.
357. Exterior windows.
358. Approvals.

§350. **Walls.** The exterior walls or piers of fireproof **350**
buildings shall be approved masonry or reinforced concrete.

§351. **Iron and steel construction.** 1. *General.* All **351**
metal structural members which support loads or resist
stresses, in fireproof buildings, shall be entirely encased in
fireproofing material securely applied as hereinafter specified.

2. *Columns.* a. In exterior walls. Iron or steel columns
placed within exterior walls or along the outer lines of a
building shall be encased with approved masonry not less
than eight inches thick on their outer and side surfaces, nor
less than four inches thick on their inner surfaces.

b. Interior. Iron and steel columns used in the interior
of a building shall be encased on all sides with fireproofing
materials not less than two inches thick.

c. Lugs and brackets. The extreme outer edges of lugs,
brackets or other supporting parts of columns shall not ex-
tend nearer than one inch to the outer surface of the fire-
proof casing.

d. Protection to fireproofing. Where the fireproofing of
columns is exposed to damage from trucking or handling of
merchandise, the superintendent of buildings may require
such fireproofing to be jacketed for a height of three feet
from the floor with a protective covering.

3. *Beams and girders.* Iron or steel beams and girders
shall be entirely encased in fireproofing materials not less
than two inches thick at any point when supporting a wall
or part thereof or a sidewalk, and not less than one and
one-half inches thick in any case.

4. *Lintels.* a. Iron or Steel. Iron or steel lintels over
openings in walls shall be encased as required for beams,
provided that when the span of any such opening does not
exceed four feet or such opening is spanned by an adequate
masonry arch above the lintel the fireproofing may be
omitted.

*Amended by ord. adopted July 6, 1915; effective October
6, 1915.

b. *Stone.* Stone lintels shall not be used in fireproof buildings unless supplemented on the inside of the wall with iron or steel lintels, or with suitable masonry arches.

5. *Trusses.* a. *General.* All members of steel trusses, except roof trusses hereinafter specified, shall be entirely encased in fireproofing materials not less than two inches thick at any point.

b. *Roof trusses.* The fireproofing herein required for trusses may be omitted when such trusses support only roof loads and ceilings over interior open spaces having a clear height of at least twenty feet below the lower chords of the trusses. In such cases the fireproofing may also be omitted from the soffits of roof beams or purlins.

6. *Fireproofing materials.* The fireproofing required by this section shall consist of any of the following materials:

a. Bonded brickwork laid in cement mortar;

b. Concrete consisting of one part Portland cement, and not more than two parts of sand and four parts of gravel, stone or other approved aggregate that will pass through a three-quarter inch ring, suitably reinforced with wire or metal fabric;

c. Cinder concrete consisting of one part Portland cement and not more than two parts of sand and five parts of clean, well-burned steam boiler cinders, suitably reinforced with wire or metal fabric;

d. Porous or semi-porous terra cotta blocks with shells and webs at least one inch thick, laid in cement mortar, thoroughly bonded or secured by metal ties;

e. Solid gypsum blocks, containing not more than twenty-five per cent. by weight of cinders, asbestos fibre, wood chips or vegetable fibre, laid in gypsum plaster or cement mortar, thoroughly bonded or secured by suitable galvanized metal ties or fabric; or

f. Any material or form of construction that will resist the action of flame and a heat of seventeen hundred degrees Fahrenheit for at least two hours, without raising the temperature of the material to be protected above five hundred and fifty degrees Fahrenheit by transmission through a thickness of two inches, as determined by test prescribed in the rules adopted by the superintendent of buildings.

7. *Prohibition.* No pipes, wires, cables or other material shall be embedded in the required fireproofing of columns or other structural members.

352 §352. *Masonry.* Interior walls, piers, arches and vaultings that support loads in addition to their own weight in fireproof buildings shall be constructed of approved masonry, except that stone masonry shall not be used for such purpose, or

for columns or lintels unless supplemented by other approved masonry or by properly protected iron or steel construction.

§353. Reinforced concrete. Reinforced concrete construction conforming with the requirements of article 16 of this chapter shall be deemed fireproof construction. **353**

§354. Floors and roofs. 1. *General.* The filling between steel floor and roof beams in fireproof buildings shall consist of arches or slabs of brick, terra cotta, stone concrete or cinder concrete, constructed as hereinafter specified, or of such other material or construction as may be approved by the superintendent of buildings as conforming to the requirements of the fire and strength tests hereinafter prescribed. **354**

2. *Brick arches.* When brick is used as floor filling it shall consist of segmental arches having a thickness of not less than four inches for spans of five feet or less, and of not less than eight inches for spans exceeding five feet. Such arches shall be built of good, hard, common or hollow brick, laid to a line and solidly bonded. Each longitudinal line of brick shall break joints with the adjoining lines. The arches shall spring from suitable skewbacks, and shall be properly keyed. The rise shall be not less than one inch for each foot of span. The brick shall be well wet before laying, and the joints filled solid with cement mortar.

3. *Terra cotta arches.* a. *Material.* When terra cotta is used as floor filling it shall consist of hollow blocks, either hard burned or semi-porous, of uniform density and hardness. The thickness of shells and webs of each block shall be not less than five-eighths of an inch. Interior vertical and horizontal webs of arch blocks shall not be spaced more than four inches apart. The skewbacks shall be of such form and section as to accurately fit the beams and properly receive the thrust of the arches. The arch blocks shall be laid in cement mortar and properly keyed.

b. *Segmental arches.* When terra cotta filling is segmental in form the blocks shall be not less than six inches in depth with at least two cellular spaces in such depth. The rise of such arches shall be not less than one inch for each foot of span.

c. *Flat arches.* When terra cotta filling is in the form of flat arches, the depth of the blocks, unless reinforced with steel, shall be not less than one and one-half inches for each foot of span between the steel beams, exclusive of the portion of the block projecting below the underside of the beams.

d. *Strength of terra cotta arches.* Terra cotta filling shall be so designed that it will safely sustain the superimposed loads by increasing so far as may be necessary the depth and

the thickness of shells and webs of the blocks. When such filling is reinforced by wire fabric, steel rods or other steel shapes, thoroughly embedded in Portland cement mortar and bonded to the terra cotta, the strength of the construction may be determined by accepted engineering formulae. For the purposes of this section, the working stresses, in pounds per square inch, shall be taken at 500 for terra cotta in compression, 16,000 for steel in tension, and 100 for bond between steel and mortar and between terra cotta and mortar.

4. *Concrete floor arches.* a. *Material.* When concrete is used as floor filling it shall consist of one part of Portland cement, and not more than two parts of sand and five parts of stone, gravel or cinders, reinforced in the case of slab construction with steel as herein provided. The stone or gravel shall be as required for reinforced concrete in article 16 of this chapter. Cinders shall be clean, well burned steamboiler cinders.

b. *Reinforcement.* When reinforcement is required it shall consist of steel rods or other suitable shapes, or steel fabric. The tensional reinforcement in any case shall be not less than twelve hundredths per cent. in the case of cold drawn steel fabric, nor less than twenty-five hundredths per cent. in the case of other forms, the percentage being based on the sectional area of slab above the center of the reinforcement. The center of the reinforcement shall be at least one inch above the bottom of the slab, but in no case shall any part of the reinforcement come within five-eighths of an inch from the bottom of the slab.

c. *Segmental form.* When the concrete floor filling is used in the form of segmental arches, the thickness shall be at least four inches at the crown. Such arches shall have a rise of not less than one inch for each foot of span.

d. *Flat construction.* When the concrete floor filling is in the form of slabs the thickness shall be not less than four inches, except as otherwise provided in this article for special roof construction.

e. *Strength of concrete slabs.* In determining the safe carrying capacity of concrete slab floor fillings the gross load in pounds per square foot of floor surface shall not exceed the product of the depth in inches of the reinforcement below the top of the slab, by the cross-sectional area in square inches per foot of width of the tensional steel, divided by the square of the span in feet, all multiplied by the following co-efficients when cinder concrete is used, 14,000 if the reinforcement is not continuous over the supports, 18,000 if the reinforcement consists of rods or other shapes securely hooked over or attached to the supports, and 26,000 if the reinforcement consists of steel fabric continu-

ous over the supports, and, when stone concrete is used, 16,000, 20,000 and 30,000, respectively.

In determining the safe carrying capacities of concrete floor fillings segmental in form, the compressive stress in pounds per square inch in the concrete shall not exceed 300 for cinder concrete or 500 for stone concrete.

Nothing in this section shall prevent the determination of the safe carrying capacity of any form of concrete floor filling approved as fireproof under the provisions of this article, by the usual methods of calculation, provided the stresses used, in pounds per square inch, shall not exceed 300 for cinder concrete in compression, 16,000 for steel in tension, and 50 for bond between cinder concrete and steel, or in the case of stone concrete, the values fixed by article 16.

5. *Test of floor fillings.* a. Fire tests. In testing the fireproof qualities of any floor filling, at least one panel of the proposed maximum span, carrying a live load of at least one hundred and fifty pounds per square foot, shall be subjected to a fire continuous for four hours at an average temperature of seventeen hundred degrees Fahrenheit, followed by an application for not less than ten minutes of a hose stream from a one and one-eighth inch nozzle at sixty pounds nozzle pressure, without appreciable deterioration or the passage of flame through the floor during the test.

b. Load tests. When the strength of any floor filling cannot be determined by the methods prescribed in this section or by the application of accepted engineering formulae the safe uniformly distributed carrying capacity shall be taken as one-sixth of the total load causing failure in a full-sized construction with the load applied at two points each at one-third of the span from the ends of the span.

6. *Special roof construction.* For mansards and dormers, roofs of bulkheads and roofs having a pitch of more than thirty degrees with the horizontal, blocks of terra cotta stone or cinder concrete, or gypsum containing not more than twenty-five per cent. by weight of cinders, abestos fibre, wood chips or vegetable fibre, not less than two inches thick, resting on steel shapes spaced not more than one foot for each inch of thickness in the block may be used instead of the construction prescribed in this section for floors and roofs.

7. *Tie rods.* The supporting beams in fireproof floors and roofs shall be tied together by steel tie rods of proper size, spacing and location, within the limitations fixed by §308 of this chapter, provided that when the floor filling is in the form of reinforced slabs and the reinforcement is continuous over the supports or securely attached to the same tie rods may be omitted.

8. *Span of floor filling.* In fireproof buildings the span of any floor filling shall not exceed eight feet except when reinforced concrete or reinforced terra cotta is used.

9. *Top filling.* In fireproof buildings the space between the floor filling and the flooring shall be filled with concrete, consisting of one part of cement and not more than ten parts of cinders, or with other incombustible material approved by the rules of the superintendent of buildings.

10. *Cutting floors.* After the floor filling is completed, no opening greater than two square feet shall be cut through said floors unless suitable metal framing or reinforcing is provided around the opening. When pipes or conduits pass through floor filling the openings around the same shall be filled in solidly with fireproof material unless approved close fitting individual sleeves, with the space around the sleeves filled solidly with incombustible material, are provided.

355 §355. *Partitions.* 1. *Materials.* Except as otherwise provided in this section or in article 18 of this chapter, partitions hereafter erected in fireproof buildings shall be constructed of the materials and in the manner herein specified:

- a. Brick in cement mortar;
- b. Concrete, consisting of one part Portland cement and not more than three parts of sand and six parts of stone or gravel, not less than three inches thick if properly reinforced with steel, nor less than four inches thick otherwise;
- c. Cinder concrete, consisting of one part Portland cement and not more than three parts of sand and six parts of cinders, not less than four inches thick if properly reinforced with steel, nor less than five inches thick otherwise;
- d. Hollow terra cotta blocks, laid in cement mortar, not less than three inches thick;
- e. Hollow concrete blocks, of either stone or cinder concrete, laid in cement mortar, not less than three inches thick;
- f. Solid or hollow blocks consisting of gypsum containing not more than twenty-five per cent. by weight of cinders, asbestos fibre, wood chips or vegetable fibre, laid in gypsum plaster or cement mortar tempered with lime, not less than three inches thick;
- g. Metal lath on a steel studding covered with Portland cement mortar or gypsum plaster, of a finished thickness of not less than two inches in the case of solid partitions, nor less than three inches in the case of hollow partitions; or
- h. Any material or form of construction that may be approved by the superintendent of buildings as conforming to the requirements of the fire test hereinafter prescribed.

But nothing in this section shall prevent the erection, in

the discretion of the superintendent of buildings, of partitions of pressed metal and glass or of temporary partitions of wood and glass within rooms or spaces enclosed by fireproof partitions or walls.

2. *Construction.* Unless built as approved masonry walls, partitions in fireproof buildings shall be independently supported at each floor. They shall be keyed, or otherwise securely fastened to the ceilings, and, when necessary, shall be stiffened with suitable steel uprights securely fastened to floor and ceiling. Partitions enclosing hallways or toilet rooms and other permanent partitions shall not rest on wood flooring but shall start on the fireproof construction of the floor.

3. *Tests of fireproof partitions.* In testing the fireproof qualities of any partition construction, a vertical panel of not less than 14 feet long and 9 feet high shall be subjected to a fire continuous for not less than 1 hour at an average temperature of 1,700 degrees Fahrenheit during the latter half hour, followed by an application for not less than 2½ minutes of a hose stream from a 1½ inch nozzle at 30 pounds nozzle pressure, without the passage of flame during the test.

§356. *Interior finish.* 1. General restrictions. Except as hereinafter otherwise permitted no woodwork or other combustible material shall be used in floors, ceilings, partitions, furrings or other interior finish of fireproof buildings. 356

2. *Woodwork permitted.* a. Floor sleepers, door bucks and grounds may be of wood provided that they are not exposed on any side; but this shall not permit the use of anything but metal lath, metal furrings or forms of metal in ceilings or in ornamental plastering work.

b. When the height of the building does not exceed 150 feet the doors and windows and their frames, the trim, casings and other interior finish, when filled solid at the back with fireproof material, and the flooring may be of wood.

3. *Restrictions in buildings over 150 feet high.* When the height of the building exceeds 150 feet:

a. The flooring shall be of incombustible material or of fireproof wood, provided that in public halls and stairways no wood of any kind, except for handrails, shall be used; but nothing in this article shall prevent the use, cemented to such flooring, except in stairways, of wearing surfaces of linoleum, cork composition, or rubber composition, not exceeding one-half inch in thickness.

b. The inside window frames and sash, doors, trim and other interior finish shall be of metal or wood covered with metal, or of fireproof wood, or of any incombustible materials or any combination of materials that will show a fire resistance not less than that of a fireproof wood.

4. *Fireproofed wood.* The superintendent of buildings shall adopt rules prescribing the tests to which fireproofed wood and

incombustible materials or any combination of materials shall be subjected. Such rules shall also provide for the inspection of the materials, to insure the installation of tested and approved materials only. No wood or other material required to be tested shall hereafter be placed in any building exceeding 150 feet in height except in conformity to the requirements of this section.

Sec. 2. This ordinance shall take effect immediately.

Adopted by the Board of Aldermen July 12, 1927.

Approved by the Mayor July 21, 1927.

357 §357. **Exterior windows.** When the height of a fire-proof building exceeds 150 feet, all exterior window frames and sash shall be of metal, or of wood covered with metal in the manner prescribed by the rules of the superintendent of buildings.

358 §358. **Approvals.** 1. *Existing approvals continued.* Any material or form of construction coming under the provisions of this article and heretofore approved may be used for the purposes for which it was approved, except so far as it may be inconsistent with specific provisions of this article.

2. *New materials and constructions.* Approvals for new materials and forms of construction shall be issued in accordance with the provisions of §22 of this chapter. Nothing in this chapter shall prevent the superintendent of buildings from accepting duly authenticated tests by any competent person, in lieu of the tests under his own supervision, provided the intent of this article is secured.

3. *Saving clause.* Nothing in this article shall prohibit the use of material already fabricated or of any construction already erected, which conforms to previously existing statutes, but this shall not be construed to permit the continuance of any construction erected in violation of any statute previously in force, nor to prevent the collection of any penalty heretofore incurred.

*ARTICLE 18.

Safeguards against Spread of Fire.

Section 370. Definitions.

371. Fire walls.

372. Fire partitions.

373. Shafts.

374. Existing hoistways.

375. Protection of exterior openings.

376. Protectives for openings.

370 §370. **Definitions.** For the purpose of this chapter:

a. A fire wall is any wall built for the purpose of restricting the area subject to the spread of fire;

*Amended by ord. adopted Nov. 9, 1915; effective Feb. 9, 1916.

b. A fire partition is a sub-dividing partition built for the purpose of protecting life by providing an area of refuge;

c. A shaft is an enclosed space extending through one or more stories of a building connecting a series of two or more openings in successive floors, or floors and roof;

d. An open shaft is one that extends through the roof of a building and is open to the outer air at the top;

e. A vent shaft is one used solely to ventilate or light, or both, one or more water-closet compartments or bathrooms;

f. An elevator shaft is one that encloses any device used for carrying persons or things upward or downward;

g. A dumbwaiter shaft is an elevator shaft which has a cross-sectional area at any point of nine square feet or less, and in which the device is used only for the carrying of things;

h. The term "self-closing," as applied to a fire door or other opening protective, means closing automatically after having been opened for use;

i. The term "automatic," as applied to a fire door or other opening protective, means normally held in an open position and automatically closing by the action of some releasing device.

§371. **Fire walls.** 1. *Construction.* Fire walls shall be constructed of approved masonry or reinforced concrete of the thickness prescribed by this chapter for the exterior walls of the building in which it is erected, but if hollow terra cotta blocks are used they shall be filled solidly with concrete. In non-fireproof buildings fire walls shall be continuous from the foundation to the roof and provided above the roof with a parapet wall, as specified in §259 of this chapter. 371

2. *Opening.* No opening in a fire wall shall exceed eighty square feet in area, and the aggregate width of all openings at any level shall not exceed twenty-five per cent. of the length of the wall, except that in the first story of buildings equipped throughout with an approved system of automatic sprinklers larger openings and a greater percentage of wall length may be used by the special written permission of the superintendent of buildings, stating the reason for such allowance. Every opening in a fire wall shall be protected on each side of the wall with an approved automatic fire door. When any fire wall serves also as a fire partition it shall have no openings other than door openings not exceeding forty-eight square feet in area, and one of the automatic fire doors at each opening shall be replaced by a self-closing fire door.

§372. **Fire partitions.** 1. *Construction.* Fire partitions shall be constructed of the materials and in the manner herein specified, as follows: 372

a. Approved masonry;

b. Any form of fireproof partition, constructed as re-

quired in §355 of this chapter, provided (1) that such partition is supported on each story on fireproof construction

(2) that, unless otherwise approved after the three hours' fire test herein provided, the thicknesses are not less than eight inches for brick, not less than six inches for stone or cinder concrete, or hollow blocks of terra-cotta, concrete or gypsum, and not less than four inches for stone or cinder concrete if properly reinforced with steel;

(3) that, unless constructed of expanded metal or wire lath and cement mortar of a finished thickness of not less than two and one-half inches, metal lath construction shall not be used, and,

(4) that all openings in partitions of hollow building blocks, gypsum or metal lath construction, shall be adequately reinforced with steel; or,

c. Any material and form of construction that may be approved by the Superintendent of Buildings as conforming to the requirements of the fire test prescribed in subdivision 3, §355 of this chapter, provided, however, that for fire partitions the duration of such test shall be not less than three hours and that such partition shall be supported at each story on fireproof construction.

2. *In non-fireproof buildings.* In non-fireproof buildings fire partitions, if required in any story, shall be continuous through all stories from the foundation to the roof, provided that if any of the floors of the building are of fireproof construction for their full extent and all stairways are enclosed in approved fireproof construction, fire partitions shall be required to be continuous only from one such fireproof floor to another or to the roof. Any such fire partition shall be deemed continuous, even though the several parts are not directly over one another in successive stories, if the intervening parts of the floors at the levels where offsets occur, are of fireproof construction and all parts not supported directly on the foundations are carried on fireproof construction. Fire partitions shall be carried at least three feet above any non-fireproof roof.

3. *Openings.* Fire partitions shall have no openings other than the required door openings. No such door opening shall exceed forty-eight square feet in area. If more than one door opening is required, the distance, measured along the line of the fire partition, between any door and the next one shall not be more than sixty feet. Every opening in a fire partition shall be protected by an approved self-closing fire door.

373 §373. *Shafts.* 1. *When required.* Unless otherwise specifically provided by any other law or ordinance, shafts as

in this section described and specified shall be provided in all fireproof and non-fireproof buildings for every series of floor openings, except stairways, hereafter placed or constructed in any such building, whether for air, light, elevator or any other purpose, or hereafter altered so as to enlarge any of such openings, or to change their use. The provisions of this section shall not, however, be taken to apply to ducts permitted by Article 19 of this chapter.

2. *Open shafts.* All open shafts hereafter placed in any building shall be constructed of approved masonry or reinforced concrete, and of the thicknesses required for exterior walls, provided that for shaft walls not exceeding ten feet in length the thickness may be reduced to not less than eight inches for the uppermost forty feet and four inches more for each lower section of forty feet.

3. *Shafts exceeding nine square feet in area.* Except as hereinafter provided in this section, all shafts hereafter erected in any building and having a cross-sectional area at any point within the enclosing walls of more than nine square feet, and all existing shafts hereafter enlarged so that the cross-sectional area at any point exceeds nine square feet shall be constructed in the manner and of the material and thickness prescribed in subdivision 1. §372 of this article for fire partitions, or subdivision 2 of this section for open shafts.

4. *Shafts not exceeding nine square feet in area.* All shafts hereafter erected in any building and having a cross-sectional area at any point of nine square feet or less, except as hereafter provided in this section, shall be constructed of approved masonry, reinforced concrete, or any material or form of construction, not less than two inches thick, permitted under the provisions of §355 of this chapter as permanent fireproof partitions, set in a steel frame of proper strength or suitably reinforced with metal dowels, or in such other manner as may be approved by the Superintendent of Buildings.

5. *Elevator shafts in existing residence buildings.* In existing residence buildings which have not more than fifteen sleeping rooms any elevator shaft hereafter erected, when the available space does not permit of the construction required by subdivision 3 of this section, may be constructed as required by subdivision 4 of this section.

6. *Non-fireproof shafts.* Vent shafts hereafter erected in non-fireproof residence buildings, when extending through not more than one story in height, carried not less than three feet above the roof and covered with a ventilating skylight of metal and glass, and dumbwaiter shafts hereafter erected that do not extend more than three stories above the cellar

or basement in residence buildings occupied by not more than two families or having not more than fifteen sleeping rooms, may be built of wood filled in solidly with brick or other approved incombustible material, or covered on the inside with plaster on plaster board or metal lath, or with sheet metal not less than one-sixteenth of an inch in thickness, provided that the part of any such dumbwaiter shaft which extends into the cellar shall be enclosed in eight-inch brick walls.

7. *Existing elevators.* In every non-fireproof public building all elevators not already enclosed in fireproof shafts shall be enclosed in walls constructed and arranged as in this section required for elevator shafts.

8. *Existing dumbwaiter shafts.* Any existing dumbwaiter shaft which extends into the cellar or basement, except such as do not extend more than three stories above the cellar or basement in residence buildings, shall be enclosed in the cellar or basement with walls of brick eight inches thick or other fireproof construction approved by the superintendent of buildings, unless already enclosed in some form of construction conforming to the requirements of subdivision 4 of this section.

9. *Openings.* a. In open shafts having a cross-sectional area at any point of thirty-six square feet or less, hereafter erected or altered, all openings shall be protected with fire doors, fire shutters or fire windows.

b. In vent shafts, hereafter erected or altered, except non-fireproof vent shafts, all openings shall be provided with fire windows.

c. In elevator shafts hereafter erected or materially altered all door openings shall be protected by fire doors. No other openings shall be provided in such shafts, except window openings to the outer air.

d. In dumbwaiter shafts hereafter erected or altered, there shall be no openings other than door openings protected with self-closing fire doors.

e. All other shafts not provided for in this subdivision, hereafter erected or altered, shall have all openings protected with self-closing fire doors.

10. *Enclosure at top.* All shafts hereafter erected or altered to extend into the top story of any non-fireproof building shall be carried through and not less than three feet above the roof. Every shaft extending above the roof, except open shafts, shall be enclosed at the top with a roof of fireproof construction and a metal skylight of at least three-fourths the area of the shaft in the top story, except that the skylight herein required may be replaced by a window of equivalent area in the side of the shaft provided the

sill of such window is not less than three feet above the roof and the window does not face a property line within ten feet. Any shaft that does not extend into the top story of the building shall have the top enclosed with fireproof construction.

11. *Enclosure at bottom.* The bottom of every shaft, hereafter erected or altered, except vent shafts, shall be enclosed with fireproof construction.

12. *Elevator machinery compartment.* When any compartment which contains machinery for operating an elevator communicates with an elevator shaft it shall be enclosed with partitions of the same materials and construction as required for the shaft, and shall have fire doors in the openings.

13. *Number of elevators restricted in shaft.* Not more than two elevators shall be placed hereafter in any one shaft, and where there are only two elevators in any building they shall be placed in separate shafts.

§374. Existing hoistways. 1. *Gates and trapdoors.* 374

In any existing building in which there shall be any hoistway, elevator or wellhole not already inclosed in walls constructed of brick or other fireproof material and provided with fireproof doors, the openings thereof through and upon each floor of said building shall be provided with and protected by substantial guards or gates and with such good and sufficient trapdoors as may be directed and approved by the superintendent of buildings. When, in the opinion of the superintendent of buildings, automatic trap-doors are required to the floor openings of any uninclosed elevator, the same shall be constructed so as to form a substantial floor surface when closed, and so arranged as to open and close by the action of the elevator in its passage either ascending or descending.

2. *Enforcement of section.* Except as otherwise provided by law or ordinance, the superintendent of buildings shall have power and authority to require the openings of hoistways, elevators and wellholes in buildings to be enclosed or secured by trap-doors, guards or gates and railings.

3. *Guards, gates and trap-doors to be closed when not in use.* All guards or gates required by this section shall be kept closed at all times, except when in actual use, and the trapdoors shall be closed at the close of the business of each day, by the occupant or occupants of the building having the use or control of the same.

§375. Protection of exterior openings. 1. *When re-* 375
quired. Every window or other opening above the first story in the exterior walls of every fireproof and non-fireproof business building, more than forty feet in height, shall, ex-

cept as may be otherwise specifically provided in this chapter or by any other law or ordinance, be protected by a fire-door, fire window, fire shutter, open sprinkler or other approved protective when such opening is distant in a direct line less than thirty feet from any opening in any other building and not in the same plane with said opening, or when said opening is not more than fifty feet above a neighboring roof.

2. *Fire shutters to be readily opened.* When fire shutters are used in exterior openings at least one row in every three vertical rows of shutters on front window openings shall be arranged to be readily opened from the outside. Distinguishing marks, satisfactory to the fire commissioner, shall be provided on these shutters.

3. *Openings for fire escapes.* When fire doors or fire shutters are used on exterior openings leading to fire escapes or exterior exits of any kind they shall be so arranged as not to obstruct such fire escape or exit.

4. *Vertical separation of windows.* In fireproof and non-fireproof business buildings hereafter erected, over forty feet in height, exterior openings above the second story that are located vertically above one another and that do not require any protective under this section, shall have not less than three feet of solid masonry between the top of one opening and the bottom of the one next above, and no such opening shall be arranged, to open within one foot of the ceiling of the story in which it is located, provided, however, that part of such masonry between openings may be replaced by wire glass in fixed metal sash and frame.

5. *Closing protectives.* All fire doors, fire shutters and fire windows on exterior openings, unless provided with approved automatic closing devices operative from either side, shall be closed when not required to be open, and at the close of business each day by the occupant or occupants of the building having the use or control of them.

376 §376. **Protectives for openings.** 1. *Construction.* All opening protectives required or permitted under this chapter shall be constructed as prescribed in such rules, consistent with the provisions of this chapter, as may be promulgated by the superintendent of buildings, or, in the absence of such rules, as specified in the standard requirements of the National Board of Fire Underwriters; or they may be constructed in any manner and of any material that will comply with the fire test hereinafter prescribed.

2. *Fire test.* In testing the fireproof qualities of any opening protective a complete sample of the device of the maximum size to be approved, constructed and installed in every respect as in actual service, shall be subjected to a fire

on one side, continuous for not less than one hour, at a temperature, in the case of fire doors and fire shutters increasing gradually from that of the outer air to eighteen hundred degrees Fahrenheit within the first half-hour and to two thousand degrees Fahrenheit during the second half-hour, and, in the case of fire windows, increasing gradually from that of the outer air to fifteen hundred degrees Fahrenheit within the hour, without permitting the passing of flame or the transmission of heat to a dangerous extent.

*3. *Use of wire glass.* When wire glass is required or permitted by this chapter or the rules authorized thereunder, for fire doors, fire shutters or fire windows, the panes shall not exceed seven hundred and twenty square inches in area, and shall not be less than one-quarter inch in thickness, and shall be set not less than five-eighths of an inch in the frame. When the use of glass is permitted in any fire door or fire shutter only wire glass shall be used. For the glazing of fire windows only wire glass shall be used.

†ARTICLE 19.

Chimneys and Heating Apparatus.

Section 390. General.

- 391. Heat producing devices.
- 392. Chimneys.
- 393. Fireplaces.
- 394. Metal smokestacks.
- 395. Cupola chimneys.
- 396. Underground flues.
- 397. Ranges.
- 398. Drying rooms.
- 399. Smoke houses.
- 400. Registers.
- 401. Vent flues.
- 402. Ducts.
- 403. Smoke pipes.
- 404. Steam and hot water pipes.

§390. **General.** 1. *Definitions.* For the purposes of **390** this chapter:

a—a chimney is that part of a building which contains one or more flues for transmitting the products of combustion from some fireplace or heating device to the outer air, and includes the fireplace when there is one;

b—a flue is a passage, enclosed on all sides with solid masonry or reinforced concrete and used only for the trans-

*Amended Dec. 12, 1916.

†Amended by ord. adopted Nov. 9, 1915; effective Feb. 9, 1916.

mission of air, whether fresh, heated, or vitiated, or of the products of combustion from solid fuel or liquid fuel, and designated respectively vent flue or smoke flue;

c—a duct is a passage constructed of sheet metal or other approved incombustible material, and used only for the transmission of air, whether fresh, heated or vitiated;

d—a smoke pipe is a passage constructed of metal and used as an intermediate connection between a heat producing device and a chimney or metal stack for the transmission of the products of combustion.

2. *Notice of installation.* In case heat producing appliances or furnaces are hereafter placed in any building, or flues and fireplaces are installed, changed or enlarged, and such installation or alteration necessitates any change in any structural parts of the building, due notice shall be given to the superintendent of buildings by the person doing such work or causing the same to be done, and a permit secured from him if necessary.

391 §391. **Heat producing devices.** For the purposes of this chapter, heat producing devices shall be graded as:

a—low, including bakers' ovens; boiling vats; candy furnaces; clay, coke and gypsum tripoli kilns; coffee roasting ovens; cooking ranges; core ovens; cruller furnaces; drying furnaces for spent materials; feed drying ovens; fertilizer drying ovens; forge furnaces; gas-producers; gypsum kilns; hardening furnaces (below dark red); hot air engine furnaces; hot air heating furnaces; hot water and low pressure steam heating boilers; japanning ovens; ladle drying furnaces; lead melting furnaces; nickel plate furnaces; paraffine furnaces; rendering furnaces; rosin melting furnaces; stereotype furnaces; sulphur furnaces; type foundry furnaces; wood drying furnaces; wood impregnating furnaces;

b—medium, including alabaster gypsum kilns; charcoal furnaces; direct fire heated feed driers; direct fire heated fertilizer driers; direct fire heated pulp driers; galvanizing furnaces; glass factory lehrs and glory holes; hardening furnaces (cherry to pale red); lime kilns; porcelain biscuit kilns; smoke houses; steam boilers, other than low pressure heating boilers; water-glass kilns; wood-distilling furnaces; wood-gas retorts;

c—high, including annealing furnaces; bessemer retorts; billet and bloom furnaces; blast furnaces; bone calcining furnaces; brass furnaces; carbon point furnaces; cement, brick and tile kilns; coal and water gas retorts; cupolas; earthenware kilns; gas blow furnaces; glass smelting furnaces; glass kilns; open hearth furnaces; ore roasting furnaces; porcelain baking and glazing kilns; pot-arches; puddling furnaces; regenerative furnaces; reverberatory furnaces; stacks, car-

buretor or super-heating furnaces in water gas works; welding furnaces; wood carbonizing furnaces.

In doubtful cases the superintendent of buildings shall by a rule designate the grade of any heat producing device, being governed in doing so by the degree and amount of heat transmitted.

§392. **Chimneys.** 1. *Construction.* Except as in this article otherwise provided, every chimney hereafter erected shall be of brick or stone laid in cement mortar, or of reinforced concrete, extending above the highest point of the roof and at least four feet above the highest point of contact with the roof. Every chimney shall be properly capped with terra cotta, stone, cast iron or other approved incombustible, weatherproof material, except that on buildings forty feet or less in height the top courses of a brick chimney may be finished off by being carefully bonded and anchored together to serve as coping. 392

2. *Supports.* All chimneys shall be wholly supported by stone, brick or self-supporting fireproof construction. No chimney shall rest or be built upon any wood construction.

3. *Flues for low grade devices.* The smoke flues of stoves, cooking ranges, hot air, hot water and low pressure steam heating furnaces, and all other heat producing devices graded as low, shall be encased in brickwork or concrete not less than eight inches thick, except that for smoke flues exclusively used for ordinary stoves, ranges or open fireplaces when no combustible studding, furring or sheathing is placed against it, such brickwork or concrete may be reduced to not less than four inches. In chimneys of stone, the stone work of such flues shall be four inches thicker than required for brick. Every flue coming under the provisions of this subdivision hereafter erected shall be lined with well-burnt terra cotta pipe, from the bottom of the flue, or from the throat of the fireplace if the flue starts from a fireplace, for the entire height of the chimney. Such lining pipes shall be built in as the flues are carried up, laid end to end in cement mortar so as to make a smooth flue. Where two or more smoke flues are contained in the same chimney, the withes shall be either brick not less than four inches thick, or concrete or grout not less than one inch thick, provided, however, that every third withe shall consist of brick.

4. *Flues for medium grade devices.* The smoke flues of high pressure steam boilers, smoke houses and all other heat producing devices graded as medium shall be encased in brickwork or concrete not less than eight inches thick, or stonework not less than twelve inches thick, and in addition, shall be lined with not less than four inches of fire brick, laid in fire mortar, for a distance of at least twenty-five feet

from the point where the smoke connection of the device enters the flue.

5. *Flues for high grade devices.* The smoke flues or cupolas, brass furnaces, porcelain baking kilns and all other heat producing devices graded as high shall be built with double walls, each not less than eight inches in thickness, with an air space of not less than two inches between them. The inside of the interior walls shall be of firebrick not less than four inches in thickness.

6. *Certain flues required.* In every building hereafter erected exceeding forty feet in height, where one or more smoke flues start from the cellar or lowest story, at least one such flue shall have an internal cross-sectional area of not less than ninety-six square inches and shall start not less than three feet below the ceiling. No flue hereafter erected shall have smoke-pipe connections in more than one story of a building.

7. *Flues to be clean and chimneys safe.* Upon the completion of any new building or an alteration in any flues of an existing building, the flues shall be properly cleaned and left smooth on the inside. Any chimney which shall be dangerous in any manner whatever shall be repaired and made safe, or taken down.

8. *Unlawful use of flues.* It shall be unlawful to use as a smoke flue any flue hereafter erected or placed in any building, or any flue now existing and not already used as a smoke flue, unless it conforms to the requirements of this section. Nothing in this article, however, shall prevent the use of approved metal flue linings for the repair or alteration of flues in residence buildings.

9. *Raising adjoining chimneys.* a. Whenever a building, wall or structure is hereafter erected, altered, enlarged or raised so that any of the walls, whether independent or party, along a property line or within three feet thereof, extends above the top of any chimney, smoke flue or smokestack of an adjoining building or structure, the owner of the building, wall or structure so erected, altered, enlarged or raised, shall, at his own expense, carry up, either independently or in his own building, wall or structure, all chimneys, smoke flues and smokestacks of such adjoining building or structure within ten feet of any portion of the said wall extending above such chimney, flue or stack. The construction of such chimneys, flues or stacks shall conform to the requirements of this article applying thereto, but in no case shall the internal area of any flue or stack as raised be less than that of the existing flue or stack. All such chimneys, flues or stacks shall be carried above the walls in question to the heights pre-

scribed, and shall, furthermore, be so constructed, supported and braced as to be at all times safe.

b. It shall be the duty of the owner of the building, wall or structure to be erected, altered, enlarged or raised to notify in writing, at least 10 days before such work is begun, the owner of the chimneys, flues or stacks affected of his intention to carry up such chimneys, flues or stacks as herein provided, and unless released in writing he shall carry up such chimneys, flues or stacks simultaneously with the walls.

§393. Fireplaces. 1. *Firebacks.* The firebacks of all fireplaces hereafter erected shall be not less than eight inches in thickness of solid masonry. A lining of firebrick or other approved material at least two inches thick shall be provided unless the fireback is twelve inches in thickness. **393**

2. *Trimmer arches.* All fireplaces and chimney breasts where mantels are placed, whether intended for ordinary fireplace use or not, shall have trimmer arches or fireproof construction supporting hearths. The arches and hearths shall be at least twenty inches in width measured from the face of the chimney breast. Trimmer arches shall be of brick, stone, terra cotta or reinforced concrete. The length of the trimmer arch shall not be less than the width of the chimney breast, and the length of the hearth shall be not less than the width of the mantel. The hearths shall be of brick, stone, tile or other approved fireproof material. The combined thickness of trimmer arch and hearth shall at no point be less than six inches. Wood centres under trimmer arches shall be removed before plastering the ceiling underneath.

3. *Heaters.* No heater shall be placed in a fireplace which does not conform to the foregoing requirements of this section.

4. *Mantels.* No wood mantel or other woodwork shall be hereafter placed within eight inches on either side nor within twelve inches of the top of any open fireplace. If a coal-burning heater of the Baltimore type is placed in a fireplace, any mantel that may be provided shall be of incombustible material. No combustible summer piece or fireboard shall be used in connection with any open fireplace. All spaces back of combustible mantels shall be solidly filled in with incombustible material.

5. *False fireplaces.* False fireplaces using summer pieces or fireboards shall not be placed in any building except against an unfurred masonry wall or a fireproof partition.

§394. Metal smokestacks. 1. *Construction.* Metal smokestacks must be so constructed that they will be securely supported and that the materials entering into their **394**

construction or serving as support shall not be stressed beyond the working stresses fixed by this chapter. The metal work must be riveted and of adequate thickness, but not less than No. 16 U. S. gauge when the cross-sectional area is one hundred and fifty-four square inches or less, not less than No. 14 U. S. gauge when the cross-sectional area is more than one hundred and fifty-four square inches and not more than two hundred and one square inches, not less than No. 12 U. S. gauge when the cross-sectional area is more than two hundred and one square inches but not more than two hundred and fifty-four square inches, and not less than No. 10 U. S. gauge when the cross-sectional area is more than two hundred and fifty-four square inches. All metal work shall be painted; galvanized metal shall not be used. Clean-out openings shall be provided at the base of every such stack.

2. *Height.* All such stacks serving high grade heat producing devices shall extend to a height of not less than ten feet above the highest point of any roof within twenty-five feet.

3. *Independent stacks.* All such stacks hereafter erected, outside and independent of any building, shall be supported on substantial masonry foundations, so designed that the maximum pressure on the soil shall not exceed two-thirds of that prescribed in §231 of this chapter.

4. *Exterior stacks.* Any such stacks, or any part thereof, hereafter erected on the immediate exterior of the building it serves shall be braced to such building at least every twenty feet. It shall have a clearance of not less than four inches from the walls of a fireproof or non-fireproof building and not less than twenty-four inches from the walls of a frame building; and a clearance of not less than twenty-four inches in any direction from any wall opening, fire escape or other exit facility, unless such stack is insulated in some approved manner, in which case the clearances herein provided may be reduced an amount fixed by the superintendent of buildings when approving the insulation.

5. *Interior stacks.* Any such stack, or part thereof, hereafter erected within any building shall be enclosed in walls of approved masonry; or, if in a fireproof building, such stack, or part thereof, shall be enclosed in walls of brick, terra cotta blocks or concrete not less than eight inches thick, with a space left between the stack and the enclosing walls sufficient to render the entire stack accessible for examination and repair. The enclosing walls shall be without openings above the story at which it starts.

6. *Prohibition.* Smokestacks shall not be carried up inside of vent stacks or flues connected to ranges, unless such

vent stacks or flues are constructed as required by this article for smokestacks or smoke flues.

§395. **Cupola chimneys.** Chimneys of cupola furnaces, blast furnaces and similar devices shall extend at least 20 feet above the highest point of any roof within a radius of fifty feet thereof and be covered on the top with heavy wire netting or other approved spark arrester. No woodwork shall be within three feet of any part of such device or its chimney. **395**

§396. **Underground flues.** Underground smoke flues shall be covered with at least twelve inches of solid masonry, or an approved equivalent insulation. If clean-out openings are installed they shall be provided with approved double iron doors or covers, of which the two parts are twelve inches apart, with the intervening space filled with insulating material. No combustible flooring shall be laid over any such flues. **396**

§397. **Ranges.** 1. *Kitchen ranges.* When fixed ranges are to be installed in any building hereafter erected trimmer arches extending beyond such ranges not less than six inches on all sides shall be provided unless the floor is of fireproof construction. No such range shall be placed against a stud partition, a furred wall or any other combustible construction. When any such range is to be placed within twelve inches of a wood stud partition the said partition shall be shielded with metal from the floor to a height of not less than three feet higher than the range, provided that when the range is within six inches of the partition the studs shall be cut away and framed three feet higher and one foot wider than the range and filled in to the face of the said stud partition with brick or fireproof blocks. **397**

2. *Hoods over ranges.* All hoods and ducts for same placed over hotel or restaurant ranges shall be constructed of incombustible materials and installed in accordance with the requirements of §403 for smokepipes.

§398. **Drying rooms.** Drying rooms hereafter placed within any building as a part of the building shall be constructed entirely of incombustible materials. When the heating pipes are not placed overhead, they shall be so shielded as to preserve at all times a clear space of not less than two inches between them and the contents. All such drying rooms shall be ventilated directly to the outer air by vent flues or ducts installed as specified in §403 of this article for smoke pipes. **398**

§399. **Smoke houses.** All smoke houses hereafter erected as part of any building shall be of fireproof construction with walls of brick or reinforced concrete. All openings shall be provided with fire doors. The interior fram- **399**

ing, racks, hangers and other interior fittings shall be of incombustible materials.

400 §400. **Registers.** All registers used in any hot-air furnace heating system, placed in any woodwork or combustible floor, shall rest upon stone or iron borders firmly set in plaster of paris or gauged mortar. All register boxes used in any such heating system shall be made of tin plate or galvanized iron with a flange to fit the rabbet in the border. The register box shall be enclosed in a tin or galvanized iron casing turned under the border and spaced at least two inches from the sides of the box. Such casing shall extend from the border to and through the ceiling below in the case of a floor register and through the partition in the case of a wall register. When a register box is placed in the floor over a portable furnace, the space on all sides between the casing and the register box shall be not less than four inches. Every hot-air furnace shall have at least one register without valve or louvres.

401 §401. **Vent flues.** Flues hereafter erected for the removal of foul air or the transmission of heated air shall be encased in masonry not less than four inches thick and shall be lined with terra cotta or other approved incombustible material. Not more than one gas burning device shall be direct-connected to any flue, nor shall any such device be connected to any flue used as a smoke flue. Any flue to which a gas burning device is direct-connected shall be constructed as required in §392 for a smoke flue.

402 §402. **Ducts.** 1. *General.* Except as may be otherwise specifically permitted or prescribed, the transmission of air through buildings for heating or ventilation shall be by means of ducts constructed as in this section provided.

2. *Casing.* No casing, furring or lath of wood shall be placed against or cover a duct of any kind; but this shall not prevent the placing of woodwork on a covering over such ducts, of metal lath and plaster, plaster board or asbestos, provided the thickness of the covering is not less than seven-eighths of an inch.

3. *In partitions.* Ducts hereafter placed in combustible partitions shall be covered with one-half inch of corrugated asbestos or shall be constructed double with a one-half inch air space. The asbestos covering or outside pipe shall be not less than one and one-half inches away from the woodwork. In lieu of the above protection, four inches of brickwork or concrete may be placed between the duct and the woodwork.

4. *In floors.* Ducts hereafter placed between the flooring and ceiling of non-fireproof floors, shall be constructed double with a one-inch air space. The outside pipe shall

be not less than two inches from any woodwork, which shall be covered with metal.

5. *In closets.* Ducts hereafter placed in closets or similar concealed spaces shall be double with a one and one-half inch air space, or shall be covered with approved incombustible insulation, not less than one inch thick. When constructed double the outside pipe shall be not less than No. 18 U. S. gauge, and not less than one inch from any woodwork.

6. *Passing through partitions and floors.* Ducts hereafter placed to pass through combustible partitions or floors shall be constructed double, with a one and one-half inch air space open at one end, or shall be covered with approved incombustible insulation not less than one inch thick.

7. *Horizontal ducts.* Ducts used for hot-air furnace heating, hereafter placed under cellar ceilings, shall be at least six inches below wood floor beams, wood lath and plaster ceiling or other combustible materials; but if such combustible construction is protected by metal lath and plaster, plaster board or one-half inch asbestos the distance may be not less than three inches.

8. *Cold air ducts.* The cold air ducts of any heating system shall be of metal or other approved fireproof material.

9. *Hot air ducts.* No hot-air furnace duct shall be placed in any floor, partition or enclosure, of combustible construction, unless it be at least eight feet distant in a horizontal direction from the furnace.

§403. **Smoke pipes.** 1. *Restriction.* No smoke pipe shall pass through any floor, nor through any non-fireproof roof. 403

2. *Clearance.* The clear distance between any smoke pipe or metal breeching and any combustible material or construction shall be not less than eighteen inches in the case of low grade heat producing devices, nor less than thirty-six inches for medium or high grade heat producing devices, except that, when such smoke pipes or breechings are protected with not less than two inches of asbestos or in some other approved manner, such clearances may be reduced one-half, and that, in the case of smoke pipes used on ordinary ranges and stoves in tenements or other residence buildings having not more than fifteen sleeping rooms, such clearances may be not less than nine inches when the combustible material or construction is protected by one-half inch asbestos or its equivalent, nor less than eighteen inches when not so protected.

3. *Protection through partitions.* Smoke pipes from ordinary ranges and stoves in residence buildings may pass through combustible partitions, provided every such pipe is guarded by a double metal ventilated thimble twelve inches

larger in diameter than the pipe, or by a metal tube built in brickwork or other approved fireproof materials, not less than eight inches thick on all sides of the tube.

404 §404. Steam and hot water pipes. 1. *Protection.*

Steam or hot water pipes shall not be placed nearer than one inch to any woodwork unless the woodwork is covered with metal, in which case the distance shall be not less than one-half inch. Every steam or hot water heating pipe passing through a combustible floor or partition shall be protected by a metal tube once inch larger in diameter than the pipe. Any such pipe passing through stock shelving shall be covered with not less than one inch of approved insulation. All wood boxes or casings inclosing steam or hot water heating pipes, or wood covers to recesses in walls in which such pipes are placed, shall be lined with metal.

2. *Pipe coverings.* Any coverings or insulation used on steam or hot water pipes shall be of incombustible material.

*ARTICLE 20.

Roofing and Roof Structures.

- Section 420. General.
- 421. Roofing.
- 422. Cornices and gutters.
- 423. Leaders.
- 424. Skylights.
- 425. Scuttles.
- 426. Roof houses.
- 427. Slanting roofs.
- 428. Tanks.
- 429. Cooling towers.

420 §420. General. Except when otherwise specifically provided for in this chapter, all construction, other than water tanks, hereafter placed above the roof of any part of any building within the fire limits or of any building more than forty feet in height outside the fire limits, shall be of incombustible materials.

421 §421. Roofing. 1. *Materials.* Except as otherwise in this chapter specifically provided, every roof hereafter placed on any building or part thereof, shall be covered with an approved roofing of brick, concrete, tile, slate, metal, asbestos, slag, gravel, or other approved incombustible material.

2. *Planking.* When wood planking or sheathing is permitted in roof construction, it shall not, in any case, extend across any side or party walls.

*Amended by ord. adopted Nov. 9, 1915; effective Feb. 9, 1916.

3. *Repairs.* No roofing on any existing roof shall be renewed or repaired, except in conformity with the requirements of this section, provided, however, that when the renewal or necessary repairs do not constitute more than one-fourth of the roofing in any one roof surface, the new work may be made to conform to the existing roofing.

§422. **Cornices and gutters.** 1. *Construction.* All cornices inclusive of those on show windows, and gutters, hereafter placed on the exterior of any building, except buildings that are permitted to be of frame construction, shall be of incombustible materials. When constructed of sheet metal they shall be riveted in the seams at intervals of not more than five inches. Cornices shall be secured to the walls with metal framing or anchors, spaced not more than four feet apart, and extending not less than four inches into the wall at top and bottom. **422**

2. *Repairs.* All cornices or gutters that may now be or that may hereafter become unsafe shall be taken down, and if replaced, shall be constructed to conform to the requirements for new cornices, except that when any such cornice or gutter is not damaged to a greater extent than one-half, it may be repaired with the same material as originally constructed.

§423. **Leaders.** All buildings shall be provided with proper leaders for conducting water from the roofs. In no case shall the water from leaders be allowed to flow upon the sidewalk, but it shall be conducted by pipe or pipes to the sewer. If there be no sewer in the street then the water from the leader shall be conducted by proper pipe or pipes, below the surface to a street gutter, or to a cesspool. **423**

§424. **Skylights.** *Construction.* All skylights hereafter placed in any building shall have the sashes and frames thereof constructed of metal, except that skylights in foundries or buildings where acid fumes are present as an incident to the occupancy of the building may be of wood in the discretion of the superintendent of buildings. The frames and other parts of metal skylights shall be riveted or otherwise securely fastened, in addition to soldering, and shall be securely anchored to the supporting structure. **424**

*2. *Glazing.* Skylights placed over shafts of any kind shall be glazed with plain glass not more than 3-16 of an inch in thickness. No pane of glass in any such skylight hereafter placed in any building shall exceed 720 square inches in area.

3. *Protection.* Every skylight in which plain glass is used shall be protected by a wire screen placed not less than 4

*Amended Nov. 28, 1916.

inches nor more than 10 inches above the glazed portion of the skylight at all points. Such screen shall be not lighter than No. 12 U. S. gauge, shall have a mesh of not less than $\frac{3}{4}$ of an inch nor more than 1 inch and shall extend beyond the glazing on all sides a distance not less than the height of the screen above the glazing. When any such skylight is located over any passageway or any room of public resort a similar screen shall also be placed below the skylight.

425 §425. **Scuttles.** Unless provided with some other means of access to the roof, every building more than fifteen feet high, except dwellings with peak roofs, shall have in the roof a scuttle, with a substantial iron ladder leading thereto. All scuttles shall be covered on the top and edges with sheet metal or other approved incombustible material. The scuttle openings shall be at least two feet by three feet in size.

426 §426. **Roof houses.** 1. *Definitions.*

a. The term bulkhead as used in this section includes all such enclosed structures above the roof of any part of a building as enclose only stairways, tanks, elevator machinery or ventilating apparatus, or shafts.

b. The term pent house as used in this section means any enclosed structure, other than a bulkhead, extending not more than twelve feet above a roof.

2. *Bulkheads.* The walls of any bulkhead hereafter erected on any roof of a fireproof building, shall be constructed as required for fire partitions by subdivision 1, section 372 of this chapter. Such walls may be used as bearing walls of the bulkhead roofs when they do not exceed fifteen feet in height and thirty-five feet in length, and the roof span does not exceed twelve feet. The roofs of such bulkheads shall be of fireproof construction as provided by section 354 of this chapter. The walls and roofs of all bulkheads, unless constructed of approved masonry, shall be covered on the outside with incombustible, weatherproof material.

3. *Pent houses.* Every pent house shall be considered a story of the building and, except as may be otherwise specifically provided by law, its construction shall conform to the requirements for buildings of a height to which such pent house is carried; provided that when any exterior wall of such pent house sets back not less than five feet from the exterior walls of the next lower story of the building it may be constructed of brick not less than eight inches in thickness, or hollow building blocks not less than six inches in thickness, covered on the outside with incombustible weatherproof material, and supported by steel or reinforced concrete girders.

4. *Doors and windows.* All doors and door frames in the exterior walls of bulkheads or pent houses shall be metal or metal covered wood. All windows in bulkheads or pent houses, except where otherwise specifically provided for, shall be constructed as other windows of the building similarly located.

5. *Sun parlors.* Nothing in this section shall prevent the erection on any roof of any building, of sun parlors or rooms for similar purposes, provided that only incombustible materials are used in the construction, and the floor of such structure is constructed as required for the roof of the building.

§427. **Slanting roofs.** 1. *Construction.* Every mansard 427 or other slanting roof having a pitch of more than sixty degrees, hereafter placed on any non-fireproof building over forty feet high, shall be constructed fireproof as specified in Section 354 of this chapter.

2. *Dormer windows.* Every dormer window hereafter erected shall be constructed in the same manner as the roof on which it is placed. The sides and top shall be covered with any of the materials approved for roofing.

§428 **Tanks.** 1. *Supports.* Tanks of more than 500 428 gallons capacity hereafter placed in or on any building shall be supported on masonry, reinforced concrete or steel construction of sufficient strength and carried to a proper foundation.

2. *Emergency outlet.* Every such tank shall have in the bottom or on the side near the bottom, a pipe or outlet, not less than four inches in diameter, fitted with a suitable quick-opening valve for discharging the contents in an emergency.

3. *Location.* Such tanks shall not be placed over nor near a line of stairs or an elevator shaft, unless there is a solid roof or floor underneath the tank.

4. *Covers.* All unenclosed roof tanks shall have covers with proper slope.

5. *Hoops.* When hoops are used in the construction of tanks they shall be of metal round in section.

§429. **Cooling towers.** Cooling towers hereafter erected 429 above any roof shall be of incombustible material, except the drip bars, which may be of wood.

*ARTICLE 21.

Miscellaneous Requirements.

Section 440. Cellar ceilings.

441. Cellar floors.

442. Cellar partitions.

*Amended by ord. adopted Dec. 7, 1915; effective March 7, 1916.

Section 443. Waterproofing.

444. Floor lights.

445. Cutting beams.

446. Bay and show window construction.

440 §440. **Cellar ceilings.** In any building hereafter erected or altered so as to change its occupancy, except one story buildings outside of the fire limits and buildings occupied exclusively for residence purposes by one or two families, the wood beams over the cellar, or over the lowest story, if such story is partly below the curb or the surrounding ground level, when the curb level has not been established, shall be covered with metal lath and plaster, plaster board and plaster, or other approved incombustible material.

441 §441. **Cellar floors.** In all buildings hereafter erected the cellar floor or any floor resting directly on the ground shall consist of 1 : 3 : 6 stone or cinder concrete not less than four inches thick.

442 §442. **Cellar partitions.** In all non-fireproof buildings, except buildings occupied exclusively for residence purposes by one or two families, permanent partitions in the cellar, or in any story more than half below the curb, shall be constructed of incombustible materials, unless such partitions enclose only coal or wood bins and do not extend to the ceiling.

443 §443. **Waterproofing.** In all buildings hereafter erected, the exterior walls below the ground level and floors below the curb level resting directly on the ground, shall, when required, be waterproofed in accordance with the rules adopted by the superintendent of buildings.

444 §444. **Floor lights.** Floor lights shall be constructed of metal frames and bars or plates, reinforced concrete or other approved incombustible materials. If any glass in same measures more than sixteen square inches, it shall be provided with a mesh of wire either in the glass or under the same. Floor lights shall be of the same strength as the floors in which they are placed. Glass shall not be less than three-quarters of an inch in thickness.

445 §445. **Cutting beams.** No beams shall be cut or pierced in any manner that would cause the beam to be of insufficient strength for its load.

446 §446. **Bay and show window construction.** Bay windows and show windows that extend beyond the exterior walls, hereafter constructed or placed on any fireproof or non-fireproof building, shall be constructed of incombustible materials and in such manner as will meet with the approval of the superintendent of buildings.

*ARTICLE 22.

Frame Buildings.

- Section 470. Height.
471. Area.
472. Frame construction.
473. Filling in walls.
474. Roofing.
475. Towers.
476. Piazzas.
477. Minor structures.
478. Temporary structures.
479. Miscellaneous frame structures.
480. Permissible alterations.
481. Use of masonry walls.

§470. **Height.** Except as may be otherwise specifically provided in this chapter, or in the rules authorized thereunder, no frame building or structure hereafter erected or enlarged shall exceed 40 feet in height, except that buildings used in whole or in part as garages, motor vehicle repair shops or oil selling stations shall not exceed 25 feet in height. **470**

§471. **Area.** 1. *Building area.* No frame building hereafter erected or enlarged shall exceed five thousand square feet in area. **471**

2. *Plot area.* The combined area of frame buildings, sheds and outhouses located on any lot or plot shall not exceed eighty per cent. of the area of that part of the lot or plot which is not already covered by fireproof or non-fireproof buildings.

§472. **Frame construction.** The wood framework of all frame buildings, hereafter erected, shall consist of sills, posts, girts and plates of suitable size and materials with proper mortise and tenon framing and braced with studs at all angles, but this shall not prohibit the use of balloon framing with proper sills, posts, ribbon strips and plates provided the building is properly braced in all angles or the sheathing is put on diagonally. Floor and roof beams and rafters shall not be less than 2 inches in thickness. No part of the wood framework shall be built below the ground level. **472**

§473. **Filling in walls.** 1. *Independent walls.* Any exterior wall of a frame construction, hereafter erected within three feet of a side or rear line of the lot or plot on which it is located, or hereafter erected as the side wall of any frame tenement house, shall have the spaces between the studding filled in solidly with brickwork or other approved incombustible material. **473**

*Amended by ord. adopted Nov. 9, 1915; effective Feb. 9, 1916.

2. *Party walls.* Every party wall of frame construction hereafter erected shall have the studding filled in solidly with brickwork or other approved incombustible material not less than four inches thick. Every interior wall of frame construction, extending from front to rear without openings and dividing the building into separate and distinct parts, shall have the studding filled in solidly with brickwork or other approved incombustible material.

3. *Extent of filling.* The filling herein required in exterior or party walls of frame construction shall in all cases be carried up from the ground to the under side of the roof boards.

Section 1. Section four hundred and seventy-four of article twenty-two of the Building Code, constituting chapter five of the Code of Ordinances, is hereby repealed and a new section inserted in its place, to be section four hundred and seventy-four, to read as follows:

474 §474. *Roofing on buildings.* 1. Any roofing hereafter placed on any building within the city of New York shall be of approved fire-retarding or incombustible materials.

2. Any wooden shingle roof of a building now existing and situated within the city of New York may be repaired at any time to an extent of not more than twenty-five per cent. of its surface in any one year.

3. Any roofing of a building now existing and situated within the city of New York shall on or before the first day of January nineteen hundred and forty-two be replaced with roofing of approved fire-retarding or incombustible material.

Sec. 2. This ordinance shall take effect immediately.

Adopted by the Board of Aldermen, January 11, 1927.

Approved by the Mayor, January 24, 1927.

475 §475. *Towers.* 1. *On residence buildings.* Outside of the fire limits towers, turrets or minarets of frame construction may be erected on frame buildings occupied or used exclusively as residence buildings, provided they do not extend more than ten feet above the limiting height for frame buildings and do not cover an aggregate area of more than fifteen per cent. of the roof area of the building, and that the greatest horizontal dimension of any one tower, turret or minaret is not more than fifteen feet.

2. *Church spires.* Outside of the fire limits and the suburban limits, towers or spires of frame construction may be erected on frame buildings occupied or used exclusively as churches or other places of worship, provided they do not exceed a height of seventy-five feet above the curb or ground level.

3. *Covering.* All towers or other structures provided for in this section shall be covered on the exterior with approved incombustible roofing.

476 §476. *Piazzas.* Within the fire limits and the suburban limits, piazzas or balconies of wood may be erected on resi-

dence buildings having not more than fifteen sleeping rooms, provided they do not exceed twelve feet in width, and do not extend more than three feet above the second story floor beams. The roofs of all such piazzas or balconies shall be covered with incombustible material.

§477. **Minor structures.** 1. *Sheds.* Within the fire limits and the suburban limits sheds, open on at least one side, may be erected of wood, but such sheds shall not exceed fifteen feet in height, shall not cover an area exceeding twenty-five hundred square feet, shall not be placed nearer than four feet to any lot line, and shall be covered on the sides and roof with incombustible materials. 477

2. *Outhouses.* Outhouses of wood to be used exclusively for privies, or for the storage of coal or wood for domestic purposes, may be erected on the lot with any residence building within the fire limits or the suburban limits, provided they do not exceed eight feet in height, or one hundred and fifty square feet in area, and have the roofs covered with incombustible materials.

3. *Builders' shanties.* One-story buildings for the use of builders in connection with any building operation for which a permit has been issued, may be constructed of wood and placed on the lot or plot where such building operation is carried on, or on adjoining lots or plots if they do not interfere with the safe occupancy of any buildings thereon, or on the sheds which may be required or provided over the sidewalks in front of such building operation.

4. *Fences.* Fences of wood within the fire limits or the suburban limits shall not exceed twelve feet in height.

§478. **Temporary structures.** *Meaning.* Temporary structures shall be taken to mean platforms, reviewing stands, gospel tents, circus tents and other structures that are erected to serve their purpose for a limited time. 478

2. *Permit.* Temporary structures shall not be erected until a permit, specifying the purpose and the period of maintenance, shall have been obtained from the superintendent of buildings.

3. *How located.* Within the fire limits or the suburban limits no temporary structure which is enclosed in any manner shall be placed on any lot nearer than four feet to the lot line.

4. *Removal.* Every temporary structure shall be removed at the expiration of the period for which the permit was issued, unless such permit is renewed.

5. *Unlawful use.* It shall be unlawful to use any temporary structure for any other purpose than that designated in the permit.

§479. **Miscellaneous frame structures.** Frame structures which are of an unusual character and to which the pro- 479

visions of this chapter do not directly apply, including among others, buildings for fair and exhibition purposes, towers for observation, amusement devices, greenhouses and lumber sheds, and temporary structures of any kind shall be erected in conformity to such rules, consistent with the provisions of this chapter and securing the general intent thereof, as may be adopted by the superintendent of buildings.

480 §480. *Permissible alterations.* 1. *Application.* Subject to the requirements of this chapter as to construction, occupancy and location, any existing frame building within the fire limits or the suburban limits occupied exclusively as a residence building and having not more than fifteen sleeping rooms, may be altered and enlarged of frame construction as hereafter specified in this section, provided that no such building shall be altered or enlarged to be used for any other purpose.

2. *Raising in height.* a. Any such building situated in a row of frame buildings may be increased in height to conform to the height of adjoining buildings.

b. Any such building already exceeding twenty-five feet in height, that has a peaked roof, may be raised for the purpose of making a flat roof thereon, provided that the new roof is covered with incombustible material, and that, when so raised, the building shall not exceed forty feet in height to the highest part thereof.

c. Nothing in this section shall prohibit one-story and basement residence buildings from being increased one additional story in height.

3. *Extensions.* a. Any such building may be extended either on the front or rear to a depth of not more than fifteen feet and not more than the width of the building and not more than two stories and basement in height.

b. If any such building has an extension of less width than the main building the same may be increased in width to the full width and height of the main building.

4. *Bay windows.* Any such building may have bay windows of wood placed on any story, the roofs of which may be covered with the same material as the roof of the main building, except when such a bay window would increase the width of the building to more than eighty-five per cent. of the width of the lot.

481 §481. *Use of masonry walls.* In case approved masonry or reinforced concrete is used for the exterior walls of any building which under the provisions of this chapter is permitted to be of frame construction, nothing in this chapter shall prohibit all other parts of the building from being constructed as though the entire building were of frame construction.

ARTICLE 23.

Buildings of a Public Character.

Section 490. Public safety.

491. Aisles and passageways.

492. Enforcement of article.

493. Exemptions.

§490. **Public safety.** In all buildings of a public character, such as hotels, churches, theatres, restaurants, railroad depots, public halls, and other buildings used or intended to be used for purposes of public assembly, amusement or instruction, and including department stores and other business and manufacturing buildings where large numbers of people are congregated, the halls, doors, stairways, seats, passageways and aisles, and all lighting and heating appliances and apparatus shall be arranged as the fire commissioner shall direct, to facilitate egress in cases of fire or accident, and to afford the requisite and proper accommodation for the public protection in such cases. (Amended as above September 18, 1917.) **490**

§491. **Aisles and passageways.** All aisles and passageways in said buildings shall be kept free from camp stools, chairs, sofas, and other obstruction and no person shall be allowed to stand in or occupy any of said aisles or passageways during any performance, service, exhibition, lecture, concert, ball, or any public assemblage. (Amended as above September 18, 1917.) **491**

§492. **Enforcement of article.** The superintendent of buildings may at any time serve a written or printed notice upon the owner, lessee or manager of any of said buildings, directing any act or thing to be done or provided in or about the said buildings, and the several appliances therewith connected, such as halls, doors, stairs, windows, seats, aisles, fire walls, fire apparatus and fire escapes, as he may deem necessary. (Amended as above September 18, 1917.) **492**

§493. **Exemption.** Nothing herein contained shall be construed to authorize or require any other alterations to theatres existing prior to June 9, 1885, than are specified in this article. (Amended as above September 18, 1917.) **493**

ARTICLE 24.

Motion-Picture Theatres.

Section 500. Plans.

501. Restrictions.

502. Construction.

503. Means of egress.

504. Booth for projecting-machine and film.

505. Application to existing theatres.

506. Open-air motion-picture theatres.

500 §500. **Plans.** Before the erection, construction or alteration of a building or part thereof, to be used as a motion-picture theatre, as defined in §30, of chapter 3 of this ordinance, there must be filed with the appropriate superintendent of buildings complete plans and the detailed statement of the specifications therefor, required by §3 of this chapter. The plans must show clearly and fully the location and width of all aisles, passageways, exits, stairways and fire escapes; the arrangement of seats; the size of floor beams, walls and supports; the location and construction of the enclosure for the motion-picture machinery and other apparatus; a diagram of the lot or plot upon which the theatre is to be erected or constructed, showing the outlets from all exits, and also such other statements, plans and details as may be required by the superintendent of buildings having jurisdiction.

501 §501. **Restrictions.** No motion-picture theatre, as defined aforesaid, shall be constructed in a frame building within the fire limits, nor in a hotel, tenement house or lodging house, nor in a factory or workshop, except where the theatre is separated from the rest of the building by unpierced fire walls and floors, and in no case shall such a theatre be constructed or operated above or below the ground floor of any building.

502 §502. **Construction.** In all motion-picture theatres, as defined aforesaid, to be hereafter constructed, the following requirements shall be complied with, namely:

1. *Ceilings.* The ceilings of all theatres and of all rooms used in connection therewith shall be plastered with 3 coats of first class plaster on wire mesh or metal lath, or covered with ½-inch plaster boards, and plastered or covered with metal. If there be a basement or cellar, the ceiling under the floor of the theatre must be plastered with 3 coats of first-class plaster on wire mesh or expanded metal lath, or may be covered with metal on ½-inch plaster boards.

2. *Floor-loads.* The flooring of that portion of the building devoted to the uses or accommodation of the public must be of sufficient strength to bear safely a live load of 90 pounds per square foot.

3. *Galleries and stairways.* A gallery may be permitted, except in a theatre constructed on a lot less than 20 feet in width, but it shall not include more than 25 per cent. of the total seating capacity of the theatre. Entrance to and exit from the gallery shall in no case lead to the main floor of the theatre, and the gallery shall be provided with a stairway or stairways equipped with handrails on both sides. Stairways over 7 feet wide shall be provided with centre

handrails. The risers of the stairways shall not exceed $7\frac{3}{4}$ inches, and the treads, excluding nosings, shall not be less than $9\frac{1}{2}$ inches. There shall be no circular or winding stairways. The total width of the stairways shall not be less than 8 feet in the clear where the gallery accommodates 150 people; for every 50 people less than 150, accommodated by the gallery, said width may be reduced 1 foot. Stairways shall be constructed of fireproof material, and such material and the bearing capacity of such stairways shall be approved by the bureau of buildings.

4. *Gradients.* To overcome any difference of level between corridors, lobbies and aisles in a theatre, gradients of not over 1 foot in 10 feet, or steps having a rise not over 8 inches and a width of not less than 10 inches shall be used.

5. *Walls.* If the walls of the theatre contain wooden studs they shall be covered either with expanded metal lath or wire mesh and plastered with 3 coats of first class plaster, or with metal on $\frac{1}{2}$ -inch plaster boards, and all joints shall be properly filled with mortar.

§503. Means of egress. 1. *Aisles.* All aisles in a motion picture theatre or in a gallery thereof must be at least 3 feet in the clear. **503**

2. *Chair space.* All chairs in such a theatre, except those contained in the boxes, must not be less than 32 inches from back to back and must be firmly secured to the floor; no seat shall have more than 7 seats intervening between it and an aisle, and the space occupied by each person shall be separated from the adjoining space by means of an arm or other suitable device.

3. *Exits.* A building to be erected or to be altered for use as a motion picture theatre must be provided, on the main floor thereof, with at least 2 separate exits, one of which shall be in the front and the other in the rear of the structure and both leading to unobstructed outlets to the street. Where the main floor of the theatre accommodates more than 300 people, there shall be at least 3 such exits, the aggregate width in feet of which shall not be less than one-twentieth of the number of persons to be accommodated therein. No exit shall be less than 5 feet in width, and there shall be a main exit, not less than 10 feet in total width. All exit doors must be fireproof and made to open outwardly, and be so arranged as not to obstruct the required width of exit or court when opened. All doors leading to fire escapes must be not less than 40 inches wide in the clear, and shall be located at the opposite side or end of the gallery from other exit doors.

4. *Exit passageway to streets.* In any such building, if an unobstructed exit to a street cannot be provided at the rear thereof as herein specified, either an open court or a fireproof passageway or corridor must be provided, extending from the rear exit to the street front, at least 4 feet in the clear for theatres accommodating 100 persons or less; the width to be increased 8 inches for every additional 100 persons to be accommodated. Such passageway or corridor must be constructed of fireproof material and be at least 10 feet high in the clear. The walls forming such passageway or corridor must be at least 8 inches thick, and shall be constructed of brick or other approved fireproof material. If there be a basement, the wall on the auditorium side should either run 1 foot below the cellar bottom, or may be carried in the cellar on iron columns and girders below the cellar bottom, or on iron columns or girders properly fireproofed, according to §351 of this chapter. The ceiling of such passageway must be constructed as required by §354 of this chapter. If unobstructed rear exits or exits to a street are provided, they must be of the same total width required for the court, passageway or corridor above mentioned. The level of the open court or passageway at the front of the building shall not be greater than 1 step above the level of the sidewalk, and the grade shall not be more than 1 foot in 10, with no perpendicular risers.

5. *Fire escapes.* Galleries must also be provided with at least one line of fire escapes, leading to an open court, fireproof passage or street without re-entering the same or any other building. If the fire escape leads to a point in the court nearer the street than any exit, there must be a width of not less than 4 feet in the clear between the outer edge of the fire escape and the outer wall of the court. All fire escapes must have balconies, not less than 3 feet 4 inches in width in the clear, and not less than 4 feet 6 inches long, and from said balconies there shall be staircases extending to the ground level, with a rise of not over $7\frac{3}{4}$ inches and a step of not less than $9\frac{1}{2}$ inches, and the width of the stairs must not be less than 3 feet 4 inches.

504 §504. Booth for projecting-machine and film. Apparatus for projecting motion-pictures shall be contained in a fireproof booth or enclosure constructed as required by law. The booth in which the picture machine is operated shall be provided with an opening in its roof, or in the upper part of its side walls, leading to the outdoor air, and with a vent flue, which shall have a minimum cross sectional area of 50 square inches and shall be fireproof. When the booth is in use, there shall be a constant current of air passing outward through said opening or vent flue, at the rate of not less than 30 cubic feet per minute. The requirements

of this section shall apply to portable booths and booths in open-air theatres, as well as to motion-picture theatres.

§505. **Application to existing theatres.** All the provisions of this article shall apply to existing places of entertainment where motion pictures are exhibited under common show licenses, in case the seating capacity be increased; and, in case the seating capacity be not increased, all the provisions of this article shall apply, except the provisions of §§500, 501; subdivisions 1, 3 and 5 of §502 and subdivisions 3, 4 and 5 of §503, but the commissioner of licenses shall have power in his discretion to enforce the provisions of subdivisions 3 and 4 of §503, relating to exits and courts. 505

An existing place of entertainment seating 300 persons or less, where motion pictures are exhibited in conjunction with any other form of entertainment, must comply, before a reissuance of its license, with the provisions of article 25 of this chapter, relating to theatres seating more than 300 persons. But, if such existing place of entertainment shall discontinue all other form of entertainment except the exhibition of motion pictures, it may be licensed in accordance with the provisions of first paragraph of this section.

§506. **Open-air motion-picture theatres.** The seating capacity of each open-air motion-picture theatre, as defined in §30 of chapter 3 of this ordinance, shall be such as shall be prescribed by the commissioner of licenses. All such theatres shall conform to the following requirements: 506

1. *Aisles.* The number and width of all aisles shall be as prescribed by the commissioner of licenses, but no aisle shall be less than 4 feet wide;

2. *Exits.* At least 2 separate exits, remote from each other, shall be provided, and no exit shall be less than 5 feet in width; for every 25 persons to be accommodated in excess of 300, the total width of exits shall be increased 1 foot. All exits must be indicated by signs and red lights, and doors must open outwardly;

3. *Seats.* Seats must be stationary, with backs 32 inches apart, and so arranged that no seat shall have more than 7 seats intervening between it and an aisle. Chairs must be either securely fastened to a wood or concrete floor, or all chairs in a row must be fastened together, and at least 4 rows must be securely fastened to 1 frame; except that, where refreshments are served, tables and unattached chairs or benches used with them may be permitted;

4. *Floors.* The floor must be constructed either of wood, with sleepers, or concrete; it must extend at least 5 feet from the seats on all sides; provided, however, that, in the discretion of the commissioner of licenses, a gravel floor may be substituted for wood or concrete.

In addition to the foregoing requirements, the provisions of subdivisions 2 and 4 of §502, and §504 of this article shall apply to all open-air motion picture theatres.

ARTICLE 25.

Theatres and Other Places of Amusement.

- Section 520. Application of article.
521. Buildings must be approved.
522. Auditorium walls.
523. Dressing rooms.
524. Fire extinguishing appliances.
525. Heating plant.
526. Lights.
527. Means of egress.
528. Partitions and walls.
529. Proscenium construction.
530. Protective curtain.
531. Roof of auditorium.
532. Seats.
533. Stage.
534. Miscellaneous requirements.
535. Storage rooms; workshops.
536. Use and occupancy.
537. Jurisdiction of fire commissioner.
538. Saving clause.

520 §520. **Application of article.** Every theatre or opera house or other building intended to be used for theatrical or operatic purposes, or for public entertainment of any kind, hereafter erected for the accommodation of more than 300 persons, shall be built to comply with the requirements of this article. No building which, at the time of the passage of this ordinance is not in actual use for theatrical or operatic purposes, and no building hereafter erected not in conformity with the requirements of this section, shall be used for theatrical or operatic purposes, or for public entertainments of any kind, until the same shall have been made to conform to the requirements of this article.

521 *§521. **Buildings must be approved.** No building described in the preceding section of this article shall be opened to the public for theatrical or operatic purposes, or for public entertainments of any kind, until the fire commissioner and the superintendent of buildings shall have approved the same in writing as conforming to the requirements of this article. Any such building in which departure from the provisions of this article has been made under an approval of the superintendent of buildings or the board of examiners, and which has, previous to May 1st, 1916, been approved for

*Amended Jan. 6, 1917.

use by the fire commissioner and the superintendent of buildings, may be approved as conforming to the requirements of this article, so long as it is deemed reasonably safe by the fire commissioner and the superintendent of buildings, provided, however, that a building as to which the Courts have held that a permit for its alteration or reconstruction is void, shall not be approved.

§522. **Auditorium walls.** Interior walls built of fireproofing materials shall separate the auditorium from the entrance vestibule, and from any room or rooms over the same, also from lobbies, corridors, refreshment or other rooms. 522

§523. **Dressing rooms.** Dressing rooms may be placed in the fly galleries, provided that proper exits are secured therefrom to the fire escapes in the open courts, and that the partitions and other matters pertaining to dressing rooms shall conform to the requirements herein contained, but the stairs leading to the same shall be fireproof. All dressing rooms shall have an independent exit leading directly into a court or street, and shall be ventilated by windows in the external walls; and no dressing room shall be below the street level. All windows shall be arranged to open, and none of the windows in outside walls shall have fixed sashes, iron grills or bars. 523

§524. **Fire-extinguishing appliances.** Except as otherwise provided in this section, in every building described in section 520 of this article and not now equipped with a standpipe fire extinguishing equipment approved by the fire commissioner, there shall be provided: 524

1. *Hose.* There shall always be kept attached to each hose outlet valve, as the fire commissioner may direct, a proper and sufficient quantity of two and one-half inch hose fitted with regulation couplings of the fire department, with nozzles attached thereto, and a hose spanner at each outlet.

2. *Sprinkler system.* A separate and distinct system of automatic sprinklers, with fusible struts, approved by the fire commissioner as conforming to the provisions of the rules of the board of standards and appeals governing sprinkler installations, supplied with water from a tank located on the roof over the stage and not connected in any manner with standpipes, shall be placed on the ceiling or roof over the stage at such intervals as will protect every square foot of stage surface when sprinklers are in operation, and an additional line of sprinkler heads on the stage side of the proscenium opening. Automatic sprinklers shall also be placed, wherever practicable, in the dressing rooms, under the stage and in the carpenter shop, paint rooms, store-rooms and property rooms.

3. *Standpipes.* Standpipes, 4 inches in diameter, with hose attachments, shall be provided on every floor and gallery as follows, namely: One on each side of the auditorium in each

tier, one in each mezzanine, one on each side of the stage in each tier, one in each tier of dressing rooms, and at least one in the property room and one in the carpenter's shop. All such standpipes shall be kept clear from obstructions. Said standpipes shall be separate and distinct receiving their supply of water direct from a separate gravity tank of 3,500 gallons capacity located above the roof and from a fire pump and shall be fitted with regulation couplings of the fire department, and shall be kept constantly filled with water by means of an automatic fire pump of sufficient capacity as prescribed in the rules of the board of standards and appeals. Said pump shall be supplied from the street main and be ready for immediate use at all times during any performance in said building, except that any theatre having not more than one balcony, with no occupancy above the auditorium, used exclusively for the exhibition of motion pictures, and having no stage, dressing rooms, nor scenery, shall not be required to have a fire pump, unless required to fill the standpipe supply tank as prescribed in rules of the board of standards and appeals. In addition to the requirements contained in this section the standpipe shall also conform to the requirements contained in section 581 of this chapter.

4. *Miscellaneous.* There shall also be kept in readiness for immediate use on the stage, at least 4 casks full of water, and 2 buckets to each cask. Such casks and buckets shall be painted red. There shall also be provided hand pumps or other portable fire extinguishing apparatus and at least 4 axes and 2 25-foot hooks, 2 15-foot hooks, and 2 10-foot hooks on each tier or floor of the stage.

Exemptions—Buildings, used exclusively for the exhibition of motion pictures, not more than one story in height and not exceeding 15,000 square feet in area, having access to two streets, with no other business on premises, excepting stores occupying not more than 10 per cent. of the area, and having no stage, dressing-rooms, nor scenery, shall not be required to provide a gravity tank supply for the standpipe fire lines, nor a sprinkler system, when there is a four-inch direct connected standpipe equipment to a city water main fed two ways, or one connection on each of two street fronts, each main so fed that the shutting off of the supply of one main will not interfere with the supply of the other main, and having sufficient pressure to main a minimum of 30 pounds per square inch static pressure at the highest outlet, provided evidence is submitted establishing the fact that the water main pressure is as required. The standpipe equipment shall be provided with regulation fire department 3-inch siamese connection.

Buildings as described in this exemption will be required to have standpipes so placed that not more than 100 feet of hose shall be required to reach all parts of the auditorium.

A stadium construction may be deemed a one-story building,

on condition the seats are so arranged that they shall not at the floor level of the highest row be more than 15 feet above the lowest floor level of the auditorium, provided, however, the gradient of the auditorium floor does not exceed one foot in 12 feet. (Amended June 24, 1924.)

§525. **Heating plant.** Every steam boiler which may be required for heating or other purposes shall be located outside of the building. The space allotted to the same shall be inclosed by walls of masonry on all sides, and the ceiling of such space shall be constructed of fireproof materials. All doorways in the walls of boiler-rooms shall have fireproof doors. No floor register for heating shall be permitted. No coil or radiator shall be placed in any aisle or passageway used as an exit, but all said coils and radiators shall be placed in recesses formed in the wall or partition to receive the same. All supply, return or exhaust pipes shall be properly incased and protected where passing through floors or near woodwork. 525

§526. **Lights.** 1. *Adequacy.* Every portion of the building devoted to the uses or accommodations of the public, also all means of egress leading to the streets and including the open courts and corridors, shall be well and properly lighted during every performance, and the same shall remain lighted until the entire audience has left the premises. When interior gas lights are not lighted by electricity, other suitable appliances, approved by the superintendent of buildings, shall be provided. (Amended June 24, 1914.) 526

2. *Corridors and passageways.* All gas or electric lights in the halls, corridors, lobby or any other part of said buildings used by the audience, except the auditorium, must be controlled by a separate shut-off, located in the lobby and controlled only in that particular place.

3. *Fireproofing.* No gas or electric light shall be inserted in the walls, woodwork, ceilings, or in any part of the building, unless protected by fireproof materials.

4. *Gas connections.* Gas mains supplying the building shall have independent connections for the auditorium and the stage, and provision shall be made for shutting off the gas from the outside of the building.

5. *Nettings.* All suspended or bracket lights surrounded by glass in the auditorium, or in any part of the building devoted to the public, shall be provided with proper wire netting underneath. All lights in passages and corridors in said buildings, wherever deemed necessary by the superintendent of buildings, shall be protected with proper wire network.

6. *Stage lights.* All stage lights shall have strong metal wire guards or screens, not less than 10 inches in diameter, so constructed that any material in contact therewith shall be out of reach of the flames of said stage lights, and must

be soldered to the fixture in all cases. The footlights, in addition to the wire network, shall be protected with a strong wire guard and chain, placed not less than 2 feet distant from said foot lights, and the trough containing them shall be formed of and surrounded by fireproof materials. All border lights shall be constructed according to the best known methods, subject to the approval of the superintendent of buildings, and shall be suspended for 10 feet by wire rope.

7. *Ventilators.* All ducts or shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal and made double, with an air space between.

527 §527 Means of egress. 1. *Exits to streets.* Every theatre accommodating 300 persons shall have at least two exits; when accommodating 500 persons, at least three exits shall be provided; these exits not referring to nor including the exits to the open court at the side of the theatre. Every such building shall have one or more fronts on the streets, and in such fronts there shall be suitable means of entrance and exit for the audience, aggregating not less than 25 feet in width. The entrance of the main front of the building shall be not more than one foot above the sidewalk level unless approved by the superintendent of buildings. Each exit shall be at least five feet in width in the clear and provided with doors of iron or wood; if of wood, the doors shall be constructed as hereinbefore prescribed in this chapter. All of said doors shall open outwardly, and shall be fastened with panic bolts or other approved devices which will open when one or more persons press against inner side of said door. (Amended June 24, 1924.)

2. *Exits to courts.* In addition to the aforesaid entrances and exits on the street, there shall be reserved for service in case of an emergency an open court or space on each side of the auditorium not bordering on a street. The unobstructed, clear width of every such open court or space shall be not less than 8 feet where the total number of persons to be accommodated in the auditorium is not over 700, increasing proportionately in width above 8 feet in the ratio of 1 foot for every 500 persons above 700 to be accommodated. Every such open court or space shall extend, from each and every exit required to lead thereto, to a street or open public space and opening thereon, either directly or through a corridor or passageway of fireproof construction, not less than 10 feet high in the clear, having an unobstructed clear width equal to that required for the open court or space and separated completely by solid walls, floors and ceilings from the building or structure through which it passes, provided that no such corridor or passageway shall pass under any portion of the auditorium or stage. From the auditorium opening into the said open courts or on a street, there shall be not less than

2 exits on each side in each tier from and including the parquet and each gallery. The said open courts, spaces, corridors and passageways shall not be used for storage purposes, or for any purpose whatsoever, except for exit and entrance from and to the auditorium and stage, and must be kept free and clear during performances. Any open court or space may be used in common for 2 or more auditoriums, provided the unobstructed clear width of such open court or space is equal to that required for the total number of persons to be accommodated in all the auditoriums opening on the same. (Amended by ord. approved Aug. 8, 1916.)

3. *Doorways of exits.* Doorways of exit or entrance for the use of the public shall be not less than 5 feet in width, and for every additional 100 persons or portions thereof to be accommodated, in excess of 500, an aggregate of 20 inches additional exit width must be allowed. All doors of exit or entrance shall open outwardly and be hung to swing in such a manner as not to become an obstruction in a passage or corridor, and no such doors shall be closed and locked during any representation, or when the building is open to the public.

4. *Foyers, lobbies and corridors.* The aggregate capacity of the foyers, lobbies, corridors, passages and rooms for the use of the audience, not including toilet rooms or aisle space between seats, shall, on each floor or gallery be sufficient to contain the entire number to be accommodated on said floor or gallery, in the ratio of 150 square feet of clear floor space for every 100 persons. The level of said corridors at the front entrance to the building shall be not greater than one step above the level of the sidewalk where they begin at the street entrance. During the performance the doors or gates in the corridors shall be kept open by proper fastenings; at other times they may be closed and fastened by movable bolts. (Amended by ord. approved Aug. 8, 1916.)

5. *Aisles.* All aisles on the respective floors of the auditorium shall be not less than 3 feet wide where they begin, and shall be increased in width toward the exits in a ratio of $1\frac{1}{2}$ inches to 5 running feet. Where exits, corridors, passages or cross-over aisles are provided at both ends of any aisle, the said aisle shall be uniform in width and not less than the average width obtained by increasing the width of the aisle from the starting point to the end, as hereinbefore prescribed. (Amended by ord. approved Aug. 8, 1916.)

6. *Gradients.* Gradients or inclined planes shall be employed instead of steps where possible to overcome slight difference of level in or between aisles, corridors and passages. To overcome any difference of level in and between courts, corridors, lobbies, passages and aisles, gradients shall be employed of not over 1 foot in 12 feet, with no perpen-

dicular risers, except that in aisle runs of not more than 10 feet in length they may be 1 in 8. (Amended by ord. approved Aug. 8, 1916.)

7. *Gallery exits.* Distinct and separate places of exit and entrance shall be provided for each gallery above the first. A common place of exit and entrance may serve for the main floor of the auditorium and the first gallery, provided its capacity be equal to the aggregate capacity of the outlets from the main floor and the said gallery. No passage leading to any stairway communicating with any entrance or exit shall be less than 4 feet in width in any part thereof. From the auditorium opening into the said open courts or on the side street, there shall be not less than 2 exits on each side in each tier from and including the parquet and each and every gallery.

8. *Staircases to galleries.* Where the seating capacity is for more than 1,000 people, there shall be at least 2 independent staircases, with direct exterior outlets, provided for each gallery in the auditorium, where there are not more than 2 galleries, and the same shall be located on opposite sides of said galleries. Where there are more than 2 galleries, 1 or more additional staircases shall be provided, the outlets from which shall communicate directly with the principal exit or other exterior outlets. All such staircases shall be of width proportionate to the seating capacity as elsewhere herein prescribed. Where the seating capacity is for 1,000 people, or less, 2 direct lines of staircases only shall be required, located on opposite sides of the galleries, and in both cases shall extend from the sidewalk level to the upper gallery, with outlets from each gallery to each of said staircases. All inside stairways leading to the upper galleries of the auditorium shall be inclosed on both sides with walls of fireproof materials. Stairs leading to the first or lower gallery may be left open on one side, in which case they shall be constructed as herein provided for similar stairs leading from the entrance hall to the main floor of the auditorium. But in no case shall stairs leading to any gallery be left open on both sides. No door shall be open immediately upon a flight of stairs, but a landing at least the width of the door shall be provided between such stairs and such door.

9. *Stage staircases.* At least 2 independent staircases, with direct exterior outlets, shall also be provided for the service of the stage and shall be located on the opposite sides of the same.

10. *Stairways.* All staircases for the use of the audience shall be inclosed with walls of brick, or of fireproof materials approved by the superintendent of buildings, in the stories through which they pass, and the openings to said

staircases from each tier shall be of the full width of said staircase. All stairs within the building shall be constructed of fireproof material throughout. Stairs from balconies and galleries shall not communicate with the basement or cellar. All stairs shall have treads of uniform width and risers of uniform height throughout in each flight. Stairways serving for the exit of 50 people shall be at least 4 feet wide between railings or between walls, and for every additional 50 people to be accommodated 6 inches must be added to their width. The width of all stairs shall be measured in the clear between hand rails. In no case shall the risers of any stairs exceed $7\frac{1}{2}$ inches in height, nor shall the treads, exclusive of nosings, be less than $10\frac{1}{2}$ inches wide in straight stairs. No circular or winding stairs for the use of the public shall be permitted. When straight stairs return directly on themselves, a landing of the full width of both flights, without steps, shall be provided. The outer line of landings shall be curved to a radius of not less than 2 feet to avoid square angles. Stairs turning at an angle shall have a proper landing without winders introduced at said turn. In stairs, when 2 side flights connect with one main flight, no winders shall be introduced, and the width of the main flight shall be at least equal to the aggregate width of the side flights. All stairs shall have proper landings introduced at convenient distances.

11. *Stairway hand rails.* All inclosed staircases shall have, on both sides, strong hand rails firmly secured to the wall about 3 inches distant therefrom and about 3 feet above the stairs, but said hand rails shall not run on level platforms and landings where the same is more in length than the width of the stairs. All staircases 8 feet and over in width shall be provided with a centre hand rail of metal, not less than 2 inches in diameter, placed at a height of about 3 feet above the centre of the treads, and supported on wrought metal or brass standards of sufficient strength, placed not nearer than 4 feet nor more than 6 feet apart, and securely bolted to the treads or risers of stairs, or both, and at the head of each flight of stairs, on each landing, the post or standard shall be at least 6 feet in height, to which the rail shall be secured.

12. *Fire-escapes.* There shall be balconies not less than 6 feet in width in the said open court or courts at each level or tier above the parquet, on each side of the auditorium, of sufficient length to embrace the 2 exits, and from said balconies there shall be staircases extending to the ground level, with a rise of not over $8\frac{1}{2}$ inches to a step and not less than 9 inches tread, exclusive of the nosing. The staircase from the upper balcony to the next below shall be not less than 48 inches in width clear, and from the first

balcony to the ground 4 feet in width in the clear where the seating capacity of the auditorium is for 1,000 people or less, 4 feet 6 inches in the clear where above 1,000 and not more than 1,800 people, and 5 feet in the clear where above 1,800 people and not more than 2,500 people, and not over 5 feet 6 inches in the clear where above 2,500 people. All the before mentioned balconies and staircases shall be constructed of iron throughout, including the floors, and of ample strength to sustain the load to be carried by them, and they shall be covered with a metal hood or awning, to be constructed in such a manner as shall be approved by the superintendent of buildings. Where one side of the building borders on the street, there shall be balconies and staircases of like capacity and kind, as before mentioned, carried to the ground.

13. *Diagram of exits.* A diagram or plan of each tier, gallery or floor, showing distinctly the exits therefrom, each occupying a space not less than 15 square inches, shall be printed in black lines in a legible manner on the programme of the performance. Every exit shall have over the same on the inside the word "Exit" painted in legible letters not less than 8 inches high.

528 §528. **Partitions and walls.** The partitions in that portion of the building which contains the auditorium, the entrance and vestibule and every room and passage devoted to the use of the audience shall be constructed of fireproof materials including the furring of outside or other walls. The walls separating the actors' dressing rooms from the stage and the partitions dividing the dressing rooms, together with the partitions of every passageway from the same to the stage, and all other partitions on or about the stage, shall be constructed of fireproof material approved by the superintendent of buildings. All doors in any of said partitions shall be fireproof.

529 §529. **Proscenium construction.** A fire wall, built of brick, shall separate the auditorium from the stage. The same shall extend at least 4 feet above the stage roof, or the auditorium roof, if the latter be the higher, and shall be coped. Above the proscenium opening there shall be an iron girder of sufficient strength safely to support the load above, and the same shall be covered with fireproof materials to protect it from the heat. Should there be constructed an orchestra over the stage, above the proscenium opening, the said orchestra shall be placed on the auditorium side of the proscenium fire wall, and shall be entered only from the auditorium side of said wall. The molded frame around the proscenium opening shall be formed entirely of fireproof materials; if metal be used, the metal shall be filled in solid with non-combustible material and securely anchored to the

wall with iron. No doorway or opening through the proscenium wall, from the auditorium, shall be allowed above the level of the first floor, and such first floor openings shall have fireproof doors on each face of the wall, and the doors shall be hung so as to be opened from either side at all times.

§530. **Protective curtain.** The proscenium opening shall be provided with a fireproof metal curtain, or a curtain of asbestos or other fireproof material approved by the superintendent of buildings, sliding at each end with iron grooves, securely fastened to the brick wall and extending into such grooves to a depth not less than 6 inches on each side of the opening. The proscenium curtains shall be placed at least 2 feet distant from the foot-lights, at the nearest point. Said fireproof curtain shall be raised at the commencement of each performance and lowered at the close thereof, and be operated by approved machinery for that purpose. **530**

(b) Satisfactory proof must be submitted and filed with application that curtain is capable of withstanding a temperature of not less than 1,700 degrees F. for a period of 45 minutes. (Amended June 24, 1924.)

§531. **Roof of auditorium.** The roof over the auditorium and the entire main floor of the auditorium and vestibule, also the entire floor of the second story of the front superstructure over the entrance, lobby and corridors, and all galleries and support for the same in the auditorium shall be constructed of iron and steel and fireproof materials, not excluding the use of wood floor boards and necessary sleepers to which to fasten the same to, but such sleepers shall not mean timbers of support, and the space between the sleepers, excepting a portion under the stepping in the galleries, which shall be properly fire stopped, shall be solidly filled with incombustible material up to under side of the floor boards. **531**

§532. **Seats.** All seats in the auditorium, excepting those contained in boxes, shall be not less than 32 inches from back to back, measured in a horizontal direction, and firmly secured to the floor. There shall be not more than 14 seats in any row extending from one aisle to another, nor more than 7 seats in any row extending from one aisle to a wall. No stool or seat shall be placed in any aisle. All platforms in galleries formed to receive the seats shall not be more than 21 inches in height of riser, nor less than 32 inches in width of platform. (Amended by ord. approved Aug. 8, 1916.) **532**

§533. **Stage. 1. Construction.** All that portion of the stage not comprised in the working of scenery, traps and other mechanical apparatus for the presentation of a scene, usually equal to the width of the proscenium opening, shall be built of iron or steel beams filled in between with fireproof material, and all girders for the support of said beams shall be **533**

of wrought iron or rolled steel. The fly galleries entire, including pin-rails, shall be constructed of iron or steel, and the floors of said galleries shall be composed of iron or steel beams, filled with fireproof materials, and no wood boards or sleepers shall be used as covering over beams, but the said floors shall be entirely fireproof. The rigging loft shall be fireproof.

2. *Skylights.* There shall be provided over the stage, metal skylights of an area or combined area of at least $\frac{1}{8}$ the area of said stage, fitted up with sliding sash and glazed with double thick sheet glass not exceeding 1-12 of an inch thick, and each pane thereof measuring not less than 300 square inches and the whole of which skylights shall be so constructed as to open instantly on the cutting or burning of a hempen cord, which shall be arranged to hold said skylights closed, or some other equally simple approved device for opening them may be provided. Immediately underneath the glass of said skylights there shall be wire netting, but wire glass shall not be used in lieu of this requirement.

3. *Scenery and fittings.* All stage scenery, curtains and decorations made of combustible material, and all woodwork on or about the stage, shall be painted or saturated with some non-combustible material or otherwise rendered safe against fire, and the finishing coats of paint applied to all woodwork through the entire building shall be of such kind as will resist fire to the satisfaction of the superintendent of buildings having jurisdiction.

534 §534. *Miscellaneous requirements.* 1. *Ceilings.* The ceiling under each gallery shall be entirely formed of fireproof materials. The ceiling of the auditorium shall be formed of fireproof materials. (Amended by ord. effective June 22, 1915.)

2. *Ceiling coverings.* None of the walls or ceilings shall be covered with wood sheathing, canvas or any combustible material. But this shall not exclude the use of wood wainscoting to a height not to exceed 6 feet, which shall be filled in solid between the wainscoting and the wall with fireproof materials.

3. *Fronts of galleries.* The fronts of each gallery shall be formed of fireproof materials, except the capping, which may be made of wood.

4. *Lathing.* All lathing, whenever used, shall be of wire or other metal.

5. *Shelving and cupboards.* All shelving and cupboards in each and every dressing room, property room or other storage rooms, shall be constructed of metal, slate or some fireproof material.

535 §535. *Storage rooms; workshops.* No workshop, storage or general property room shall be allowed above the auditorium or stage, or under the same or in any of the fly galleries.

All of said rooms or shops may be located in the rear or at the side of the stage, but in such cases they shall be separated from the stage by a brick wall, and the openings leading into said portions shall have fireproof doors on each side of the openings, hung to iron eyes built into the wall.

§536. Use and occupancy. 1. *Restrictions.* No portion **536** of any building hereafter erected or altered, used or intended to be used for theatrical or other purposes as in this section specified, shall be occupied or used as a hotel, boarding or lodging house, factory, workshop or manufactory, or for storage purposes, except as may be hereafter specially provided for. This restriction relates not only to that portion of the building which contains the auditorium and the stage, but applies also to the entire structure in conjunction therewith. No store or room contained in the building, or the offices, stores or apartments adjoining, as aforesaid, shall be let or used for carrying on any business, dealing in articles designated as specially hazardous in the classification of the New York Board of Fire Underwriters, or for manufacturing purposes. No lodging accommodations shall be allowed in any part of the building communicating with the auditorium. When located on a corner lot, that portion of the premises bordering on the side street and not required for the uses of the theatre may, if such portion be not more than 25 feet in width, be used for offices, stores or apartments, provided the walls separating this portion from the theatre proper are carried up solidly to and through the roof, and that a fireproof exit is provided for the theatre on each tier, equal to the combined width of exits opening on opposite sides in each tier, communicating with balconies and staircases leading to the street in manner provided elsewhere in this section; said exit passages shall be entirely cut off by brick walls from said offices, stores or apartments, and the floors and ceilings in each tier shall be fireproof. (Amended by ord. effective June 22, 1915.)

2. *Above theatre.* Nothing herein contained shall prevent a roof garden, art gallery or rooms for similar purposes being placed above a theatre or public building, provided the floor of the same, forming the roof over such theatre or building, shall be constructed of iron or steel and fireproof materials, and that said floor shall have no covering boards or sleepers of wood, but shall be of tile or cement. Every roof over said garden or rooms shall have all supports and rafters of iron or steel, and be covered with glass or fireproof materials, or both, but no such roof garden, art gallery or room for any public purposes shall be placed over or above that portion of any theatre or other building which is used as a stage.

§537. Jurisdiction of fire commissioner. The stand pipes, **537** gas pipes, electric wires, hose, foot lights and all apparatus for the extinguishing of fire or guarding against the same, as in

this article specified, shall be in charge and under control of the fire department, and the fire commissioner is hereby directed to see that the provisions of this article relating thereto are carried out and enforced.

- 538** §538. **Saving clause.** The provisions of the foregoing article shall not be construed to mean or made to apply to any theatre, opera house or building intended to be used for theatrical or operatic purposes, lawfully erected prior to June 3, 1904, nor to the Town Hall, No. 113-123 West 43rd street, Borough of Manhattan, so long as the revenue received by it for use thereof shall continue to be applied to public, charitable, social, educational or literary purposes, and provided that said premises be not used for theatrical or operatic purposes, nor to any public dance hall which was approved by the superintendent of buildings having jurisdiction and which was licensed as a public dance hall on September 30, 1916. (Amended by ord. approved Nov. 16, 1916; amended by ord. approved June 26, 1923.)

ARTICLE 26.

Miscellaneous Structures.

- Section 550. Exhibition buildings. (Repealed by ord. effective Nov. 23, 1915.)
551. Grain elevators. (Repealed by ord. effective Dec. 28, 1915.)
552. Smokehouses. (Repealed by ord. effective Nov. 23, 1915.)

*ARTICLE 27.

Elevators.

- Section 560. Definitions.
561. Rules.
562. Permits.
563. Certificate.
564. Record of passenger elevators.
565. Inspection.
566. Riding on elevators restricted.
567. Operators.
568. Accidents.

- 560** §560. **Definitions.** For the purposes of this article, the term a—*Elevator* shall mean any device within or in connection with a building or structure used for carrying persons or things upward or downward;

*Amended by ord. adopted Dec. 14, 1915, effective March 14, 1916.

b—*Passenger elevator* shall mean and include any elevator designed and used for carrying persons other than those necessary for its safe operation or for the handling of things carried by it;

c—*Freight elevator* shall mean and include any elevator designed and used for the carrying of things and of such persons only as are necessary for its safe operation or the handling of things carried by it;

d—*Amusement devices* shall mean and include all mechanically operated devices which are used to convey persons in any direction as a form of amusement.

§561. **Rules.** The superintendent of buildings shall make rules consistent with the provisions of this article, regulating, with a view to safety the construction, maintenance and operation of all elevators and amusement devices, now existing or hereafter installed. 561

§562. **Permits.** No passenger or freight elevator shall hereafter be installed or altered in any building nor shall any amusement device be hereafter constructed or altered, until the owner or lessee, or the agent, architect or contractor or any of them, shall have submitted to the superintendent of buildings, in such form as the superintendent may prescribe, an application accompanied by plans and drawings showing the proposed construction and mode of operation, and such application has been approved by the superintendent and a permit has been issued by him. Repairs to elevators and amusement devices may be made without filing such application, except when such repairs include a change in the type of elevator or of its motive power, or when any change in safety devices or operating mechanism is made. 562

§563. **Certificate.** Whenever a passenger or freight elevator or an amusement device is hereafter installed or constructed, it shall be unlawful for the owner or lessee to operate or permit the operation or use of the same until a certificate shall have been obtained from the superintendent of buildings that such elevator or amusement device has been inspected and has been found to be safe. The superintendent of buildings shall within a reasonable time after being requested to do so inspect or cause to be inspected any elevator or amusement device hereafter installed or constructed, and if the same is found to be safe and in conformity with the provisions of this article and the rules adopted thereunder, shall issue a certificate to that effect. Nothing herein contained shall prevent the temporary use under a certificate issued by the superintendent of buildings of any elevator during construction, provided a notice is conspicuously posted on or in connection with such elevator to the effect that such elevator has not been officially approved. 563

564 §564. **Record of passenger elevators.** Every passenger elevator shall be given a serial number for purposes of identification. In the case of elevators hereafter installed such serial number shall be assigned when the first certificate is issued, and in the case of existing elevators, as soon as inspection can be made for that purpose. A docket of all passenger elevators shall be kept in each borough, giving under the corresponding serial number a description of its location sufficient for identification, together with such other information as type of construction, motive power, rise, rated speed, inspection, etc., as the superintendent of buildings may deem desirable. The owner or lessee, or agent of either, shall cause such number, together with the most recent certificate of inspection, to be attached or posted in the elevator car in the manner prescribed by the rules.

565 §565. **Inspection.** The superintendent of buildings shall cause an inspection of all passenger elevators to be made at least once in every three months and of freight elevators and amusement devices at least twice in each year. Upon notice from the superintendent of buildings, or his duly authorized representative, any repairs found necessary to such elevators or amusement devices shall be made without delay by the owner or lessee, and in case defects are found to exist, which, in the continued use of such elevator or amusement device are dangerous to life or limb, then the use of such elevator or amusement device shall cease, and it shall not again be used until a certificate shall be first obtained from said superintendent of buildings that such elevator or amusement device has been made safe. After every inspection which shows any elevator or amusement device to be safe and in conformity with the requirements of this article and the rules adopted thereunder, the superintendent of buildings shall issue a certificate to that effect.

566 §566. **Riding on elevators restricted.** It shall be unlawful for any person, other than the operator or those necessary to handle freight to ride on, or for the owner or lessee of any elevator knowingly to permit any person to ride on any elevator other than a passenger elevator. Every freight elevator shall have a notice posted conspicuously thereon as follows: THIS IS NOT A PASSENGER ELEVATOR. IT IS UNLAWFUL FOR ANY PERSON OTHER THAN THE OPERATOR OR THOSE NECESSARY TO HANDLE FREIGHT, TO RIDE ON THIS ELEVATOR.

567 §567. **Operators.** Except as may be specifically provided in any other law or ordinance, every passenger elevator, except full automatic push button elevators and escalators, must be in charge of a competent operator of reliable and industrious habits, not less than eighteen years of age, with

sufficient previous experience in running an elevator under the instruction of a competent person. No operators of amusement devices known as electrically operated scenic railroads shall be employed who have not attained the age of twenty-one years and who have not secured a certificate of competency from the superintendent of buildings. In case the superintendent of buildings shall find that the person engaged in running an elevator is incompetent or not qualified, the owner or lessee of such elevator shall, upon notice from the superintendent of buildings, at once discontinue the operation of such elevator by such operator. No person shall employ or permit any person to operate any passenger elevator who does not possess the qualifications prescribed therefor by this or any other law or ordinance.

§568. **Accidents.** The owner or lessee, or person in charge of any passenger or freight elevator or amusement device shall immediately notify the superintendent of buildings of each and every accident to a person or damage to apparatus on, about or in connection with such elevator or amusement device, and shall afford the superintendent of buildings or his representative every facility for investigating such accident or damage. The superintendent of buildings shall without delay, after being notified, make an investigation, and shall place on file in the bureau of buildings a full and complete report of such investigation. Such report shall give in detail all material facts and information available and the cause or causes so far as they can be determined, and shall be open to public inspection at all reasonable hours. When an accident involves the failure or destruction of any part of the construction or operating mechanism of a passenger elevator or amusement device, said passenger elevator or amusement device, shall not be used until it has been made safe, and the superintendent of buildings may, if deemed necessary, order the discontinuance of the same until a certificate has been issued by him for its use, but no part of the damaged construction or operating mechanism shall be removed from the premises until permission to do so has been granted by the superintendent of buildings or his representative. 568

*ARTICLE 28.

Fire Extinguishing Appliances.

Section 580. General provisions.

581. Standpipes.

§580. **General provisions.** Except as otherwise specifically provided in this article or by any law or ordinance, 580

*As amended by ord. adopted Dec. 7, 1915; effective March 7, 1916.

all buildings now existing or hereafter erected, shall be provided with such tanks, standpipes, automatic sprinklers, hose nozzles, wrenches, fire extinguishers, hooks, axes and such other appliances as may be required by and conforming to the rules of the fire commissioner, adopted or amended in the manner prescribed by this chapter for the rules of the superintendent of buildings.

581 §581. Standpipes. 1. Standpipes constructed and installed as hereinafter required and as prescribed in rules of the board of standards and appeals shall be provided:

a. In every building now existing and exceeding eighty-five feet in height, which is not already provided with a three-inch or larger standpipe.

b. In every building hereafter erected or altered to exceed eighty-five feet in height.

c. In every building exceeding 10,000 square feet in area, except in buildings specifically exempted in article 25 of this chapter and buildings of not more than one clere-story in height not exceeding 15,000 square feet in area and occupied solely as places of religious worship; and except in fireproof buildings not over four stories or 45 feet in height when such buildings are equipped with an approved two-source supply automatic sprinkler system, and are not of an occupancy deemed unusually hazardous by the fire commissioner.

d. In amusement or exhibition parks or enclosures when deemed necessary by the fire commissioner.

e. In oil storage plants, ship-yards, and other industrial plants of an area in excess of 10,000 square feet.

2. *Size.* Standpipes hereafter placed in any building shall be not less than four inches in diameter for buildings or parts thereof not exceeding one hundred and fifty feet in height, not less than six inches in diameter for buildings or parts thereof exceeding one hundred and fifty feet and not exceeding two hundred and fifty feet in height, and not less than eight inches in diameter for buildings or parts thereof exceeding two hundred and fifty feet in height.

3. *Number and Location.* The number of standpipes in any building shall be such that all parts of each story are within the reach of at least one stream supplied by hose not exceeding 100 feet in length.

When a building requiring standpipes faces on more than one street, at least one standpipe shall be installed for each street front, provided that for intersecting street fronts, one standpipe shall be sufficient for each intersection, when all portions of each area may be reached by a stream from 100 feet of hose. So far as practicable, standpipes shall be placed within stair enclosures otherwise they shall be as near the

stair as possible. All standpipes shall extend from the lower story to and above the roof.

In buildings not exceeding 40 feet in height and not over 20,000 square feet in area gravity tank may be omitted provided the standpipe riser is supplied by not less than 4-inch connection to street main having not less than 45-pound pressure.

4. *Construction.* All standpipes hereinafter installed shall be constructed as prescribed by the rules of the board of standards and appeals and shall be provided with such outlets and equipped with such appliances as required by said rules. All standpipes shall extend to the street and shall be provided with approved siamese connections. In buildings not exceeding 45 feet in height, siamese connections will not be required. Where there is more than one standpipe in any building, they shall be cross-connected in an approved manner below the side-walk level, or, if there is no cellar, they shall be cross-connected below the ceiling of the basement or lowest story. (Amended June 24, 1924.)

ARTICLE 29.

Plumbing and Other Systems of Piping.

Section 600. Rules.

- 601. Shut-off valves.
- 602. Tests of plumbing.
- 603. Tests of gas-piping.
- 604. Registration of plumbers.

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§600. **Rules.** The plumbing and drainage systems, water supply pipes, gas-piping, steam or hot water heating or power systems, refrigerating systems and other systems of pipes or apparatus for holding or conveying gases, vapors or fluids hereafter installed and maintained in or upon any building in the city shall conform to such rules as may be provided for by law or may be found necessary for the protection of life, health or property, and adopted by the superintendent of buildings. No person shall use or permit the use of such system, piping or apparatus installed or maintained in violation of any of the provisions of this article or the rules adopted hereunder. Said rules, hereafter adopted, and any changes thereof, shall be published in the CITY RECORD on 8 successive Mondays before they shall become operative. (Amended by ord. approved Nov. 14, 1914.)

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Nothing herein contained or in the rules adopted hereunder shall require the alteration or reconstruction of any existing work that was lawfully installed, nor prevent repairs or the ad-

dition of new fixtures to existing work in conformity with the practice followed in the original installation; provided, however, that, when such repairs involve the removal or alteration of more than one-half of the existing work affected by the repairs, the rules in force at the time of such repairs shall apply. (Amended by ord. approved Nov. 14, 1914.)

601 *§601. **Shut off valves.** Every building hereafter erected and also every existing building, other than residence buildings occupied exclusively by one or two families and having not more than 15 sleeping rooms, which may be supplied from some outside source with gas, vapor or fluid, except potable waters, shall have a conveniently accessible stopcock or other suitable device fixed to the supply pipes leading into the building at a place outside of the building, so arranged as to allow the supply to be shut off. Such stopcock or other device shall be so marked as to indicate either the contents and purpose of the supply pipe to which it is attached, or the company to which the device belongs.

602 §602. **Tests of plumbing.** No person shall use or permit the use of any new system of plumbing and drainage hereafter installed in any building before the same has been tested under the supervision of the bureau of buildings and in accordance with its rules, to insure the tightness of the system, nor until a proper and adequate water supply has been provided. The superintendent of buildings shall, within a reasonable time after being requested to do so, cause to be inspected and tested any system of plumbing and drainage that is ready for such inspection and test, and, if the work is found satisfactory and the test requirements are complied with he shall issue a certificate to that effect. Nothing herein contained shall prevent the inspection and test of part of a system or the issuance of a partial certificate, nor prevent the use of such part of a larger system provided that such part constitutes by itself a complete system properly tested and supplied with water. (Amended by ord. approved Nov. 14, 1914.)

603 §603. **Tests of gas piping.** No person shall use or permit the use of any new system or an extension of an old system of gas piping in any building before the same has been inspected and tested under the supervision of the bureau of buildings and in accordance with its rules, to insure the tightness of the system. The superintendent of buildings shall, within a reasonable time after being requested to do so, cause to be inspected and tested any system of gas piping that is ready for such inspection and test, and if the work is found satisfactory and the test requirements are complied with, he shall issue a certificate to that effect. Nothing herein contained shall prevent the use of existing systems of gas piping without further in-

*Effective Feb. 20, 1917.

spection or test, unless the superintendent of buildings has reason to believe that defects exist which make the system dangerous to life or property. (Amended by ord. approved Nov. 14, 1914.)

§604. Registration of plumbers. *a.* Once in each year **604**
every employing or master plumber carrying on his trade, business or calling in the city shall register his name and address at the office of the bureau of buildings in the borough of the said city in which he performs work, under such rules as the said bureau may prescribe. Such registration may be cancelled by the superintendent of buildings for a violation of the rules and regulations for plumbing or drainage of such city duly adopted, or in force pursuant to the provisions of this article, or whenever the person so registered ceases to hold a certificate from the examining board of plumbers or to be actually engaged in the business of master or employing plumber, after a hearing had before said superintendent, upon prior notice of not less than 10 days.

b. No person, corporation or copartnership shall engage in or carry on the trade, business or calling of employing or master plumber in the city unless the name and address of such person and the president, secretary or treasurer of the corporation, or of each and every member of the copartnership shall have been registered as above provided.

c. It shall be unlawful for any person, corporation or copartnership in the City of New York, unless said person, corporation or copartnership shall have complied with the requirements of this section, to hold him or themselves out to the public as a master or employing plumber by the use of the word "plumber" or "plumbing," or words of similar import or meaning, on signs, cards, stationery or in any other manner whatsoever.

d. It shall be unlawful for any person, corporation or copartnership in the City of New York to engage in or carry on the trade, business or calling of employing or master plumber, unless such person, corporation or copartnership has conspicuously posted in the window of the place where such business is conducted, a metal plate or sign appropriately lettered or marked "licensed plumber," in accordance with rules adopted by the superintendent of buildings.

e. No person, corporation or copartnership registered as provided in this section, or who holds a certificate from the examining board of plumbers, shall, for the benefit of any person engaged in the plumbing business who is not so registered, apply for, receive or make use of, any permit granted to him by reason of being so registered, or holding such certificate from the examining board of plumbers. (Amended by ords. effective Nov. 14, 1914, and July 7, 1916.)

ARTICLE 30.

Altering, Changing or Demolishing Buildings.

- 620** Section 620. Alteration of brick buildings. (Repealed by ord. effective Nov. 23, 1915.)
621. Altering use of frame buildings. (Repealed by ord. effective Nov. 23, 1915.)
622. Increasing height of buildings. (Repealed by ord. effective Nov. 23, 1915.)
623. Raising or lowering to grade.
624. Demolishing buildings. (Repealed by ord. effective Dec. 28, 1915.)
- 623** §623. **Raising or lowering to grade.** If any building shall have been built before the street upon which it is located is graded, or if the grade is altered, such building may be raised or lowered to meet the requirements of such grade.

*ARTICLE 31.

Unsafe Buildings and Collapsed Structures.

- 630** Section 630. Removal or repair of buildings.
631. Record and notice of unsafe buildings.
632. Voluntary abatement.
633. Disregard of notice; survey.
634. Judicial review of survey.
635. Repair or removal under precept.
636. Provision for expense of executing precept.
637. Return of precept; reimbursement of city.
638. Fallen buildings; buildings imminently dangerous.
639. Emergency fund.
- 630** §630. **Removal or repair of buildings.** Any building or part of a building, staging or other structure that, from any cause, may now be or shall at any time hereafter become dangerous or unsafe, shall be taken down and removed, or made safe and secure.
- 631** §631. **Record and notice of unsafe building.** Immediately upon the receipt of a report by any officer or employee of the bureau of buildings that a building or part of a building, staging or structure is unsafe or dangerous, the superintendent of buildings shall cause the same to be entered upon a docket of unsafe buildings, to be kept in his bureau; and the owner, or some one of the owners, executors, administrators, agents, les-

*Amended by ord. adopted Dec. 7, 1915, effective March 7, 1916.

sees or any other person who may have a vested or contingent interest in the same, shall be served with a printed or written notice containing a description of the premises or structure deemed unsafe or dangerous, a statement of the particulars in which the building or structure is unsafe or dangerous, and an order requiring the same to be made safe and secure or removed, as may be deemed necessary by the superintendent of buildings. Such notice shall require the person thus served to immediately certify to the superintendent his assent or refusal to secure or remove the same.

§632. Voluntary abatement. If the person served with a notice specified in §631, shall immediately certify his assent to the securing or removal of said unsafe or dangerous building, premises or structure, he shall be allowed twenty-four hours, after the service of such notice, within which to commence the securing or removal of the same; and he shall employ sufficient labor and assistance to secure or remove the same as expeditiously as can be done. **632**

§633. Disregard of notice; survey. 1. *Notice of survey.* **633**
Upon the refusal or neglect of the person served with the notice for which provision is made in §§631 and 632 of this chapter, to comply with any of the requirements thereof, a further notice shall be served upon him, in the manner heretofore prescribed, notifying him that a survey of the premises named in said notice will be made at the time and place therein named, which time shall not be less than twenty-four hours nor more than three days from the time of the service of said notice, by three competent persons, of whom one shall be the superintendent of buildings or an inspector designated in writing by said superintendent, another shall be an architect, appointed either by the New York Chapter or the Brooklyn Chapter of the American Institute of Architects, or by the New York Society of Architects, and the third shall be a practical builder, engineer or architect appointed by the person thus notified. In case the person served with such notice shall neglect or refuse to appoint such surveyor, the other two surveyors shall make the survey, and in case of a disagreement of the latter, shall appoint a third person to take part in such survey, who shall also be a practical builder, engineer or architect of at least ten years' practice and whose decision shall be final. The notice shall also set forth that, in case the premises referred to therein shall be reported unsafe or dangerous under such survey, the said report will be placed before the Supreme Court, as indicated in the notice, and that a trial upon the allegations and statements contained in said report, be the report of said surveyors more or less than is contained in the said notice of survey, will be had before said court at a time and place therein named, to determine whether said unsafe or dangerous building or premises shall be repaired and secured

or taken down and removed, and that a report of said survey, reduced to writing shall constitute the issue to be placed before the court for trial.

2. *Posting report of survey.* A copy of the report of the survey shall be posted on the building the subject thereof by the persons holding the survey, immediately on their signing such report.

3. *Compensation of surveyor.* The architect appointed by the Chapters of the American Institute of Architects or the New York Society of Architects, as hereinbefore provided, who may act on any survey called in accordance with the provisions of this article, and the third surveyor who may have been called in the case of disagreement provided for in this section, shall each be entitled to and receive the sum of \$25, to be paid by the comptroller upon the voucher of the superintendent of buildings. A cause of action is hereby created for the benefit of the City against the owner of said building, staging or structure, and of the lot or parcel of land on which the same is situated, for the amount so paid with interest. The amount so collected shall be paid over to the comptroller in reimbursement of the amounts paid by him as aforesaid.

634 §634. *Judicial review of survey.* 1. *Institution of proceeding.* Whenever the report of any such survey, had as aforesaid, shall recite that the building, premises or structure thus surveyed is unsafe or dangerous, the corporation counsel shall, at the time specified in the notice, place such notice and report before the justice holding a special term of the court named in the notice.

2. *Precedence of proceeding.* The determination of the issue in an unsafe building proceeding shall have precedence over every other business of such court, and a trial of the issue shall be held without delay, at the time specified in the notice, by the justice holding said court or a referee, whose decision or report in the matter shall be final, unless a jury trial is demanded, in which case the verdict of such jury shall be final.

3. *Postponement of trial.* If, for any reason, the issue shall not be tried at the time specified in said notice, or to which the trial may be adjourned, the same may be brought to trial at any time thereafter by the superintendent of buildings without a new survey, upon not less than three days' notice of trial to the person upon whom the original notice was served, or to his attorney. Such notice of trial may be served in the same manner as said original notice.

4. *Precept to abate.* Upon the rendition of a verdict or decision of the court or referee, if the said verdict or decision shall find the said building, premises or structure to be unsafe or dangerous, the justice trying the cause, or to

whom the report of the referee trying said cause shall be presented, shall immediately issue a precept directed to the superintendent of buildings, reciting said verdict or decision, and commanding him forthwith to repair and secure, or take down or remove, as the case may be, the unsafe or dangerous building or part thereof, staging, structure or other premises that shall have been named in the said report, in accordance with such verdict or decision.

§635. Repair or removal under precept. 1. Execution 635
of precept. Upon receiving a precept under the provisions of the preceding section, the superintendent of buildings referred to therein shall immediately proceed to execute the same, as therein directed, and may employ such labor and assistance and furnish such materials as may be necessary for that purpose, provided, nevertheless, that immediately upon the issuing of said precept, the owner of said building or part thereof, staging or structure, or premises, or any party interested therein, upon application to the superintendent of buildings, shall, upon the payment of all costs and expenses incurred up to that time by the city, be allowed to perform the requirements of the precept at his own proper cost and expense, if the same shall be done immediately and in accordance with the requirements of said precept. The superintendent of buildings shall have authority to modify the requirements of any precept upon application to him therefor, in writing, by the owner of said building or part thereof, staging or structure, or his representative, when he shall be satisfied that such change shall secure equally well the safety of said building, or part thereof, staging or structure.

2. Interference prohibited. It shall be unlawful for any person, whether interested or not in the property affected, to interfere, obstruct or hinder the superintendent of buildings or his representative, or any person who, acting under the authority conferred on him by such superintendent, is performing the work directed by a precept issued out of any court as in this article provided, or ordered by the superintendent in accordance with such precept under the provisions of this chapter.

§636. Provision for expense of executing precept. In 636
and about all preliminary proceedings, as well as the carrying into effect any order of the court or any precept issued by any court, the superintendent of buildings may make requisition upon the comptroller for such amount of money as shall be necessary to meet the expenses thereof; and, upon the approval of the statement of expenses thereof by any justice of the court from which the said order or precept was issued, the comptroller shall pay the same, and for that purpose shall borrow and raise upon revenue bonds,

issued as provided by law, the several amounts that may from time to time be required, which shall be reimbursed, by the payment of the amount and interest at six per cent., out of any judgment obtained as hereinafter provided, when said amount and interest shall have been collected.

637 §637. **Return of precept; reimbursement of city.** Upon compliance with any precept issued to him in an unsafe building proceeding, the superintendent of buildings shall make return thereof, with an indorsement of the action thereunder and the cost and expenses thereby incurred, to the justice then holding the special term of the court from which such precept issued, and, thereupon, said justice shall tax and adjust the amount indorsed upon said precept, and shall adjust and allow the disbursements of the proceeding, together with the preliminary expenses of searches and surveys thereof, which shall be inserted in the judgment in said action or proceeding, and shall render judgment for such amount, and for the sale of the said premises in the said notice named, together with all the right, title and interest that the person named in the said notice had in the lot, ground or land upon which the said building or structure was placed, at the time of the filing of a notice of lis pendens in the said proceedings, or at the time of the entry of judgment therein, to satisfy the same, which shall be in the same manner and with like effect as sales under judgment in foreclosure of mortgages. The notice of lis pendens provided for in this section shall consist of a copy of said notice of survey, and shall be filed in the office of a county clerk in the county where the property affected by such action, suit or proceeding is located.

638 §638. **Fallen buildings; buildings imminently dangerous.**
1. *Recovery of bodies from wrecked building.* In case of the falling of any building or part thereof in the city, where persons are known or believed to be buried under the ruins, the superintendent of buildings shall cause an examination of the premises to be made for the recovery of the bodies of the killed and injured. Whenever, in making such examination, it shall be necessary to remove any debris from the premises, the commissioners of the departments of docks, parks and street cleaning, and the superintendent of the appropriate bureau of highways, respectively, when called upon by the superintendent of buildings, shall co-operate with said superintendent in carrying out the purposes of this section and shall provide suitable and convenient places for the deposit of such debris.

2. *Temporary safeguards for dangerous buildings.* In case there shall be, in the opinion of the superintendent of buildings, actual and immediate danger of the falling of any building or part thereof so as to endanger life or property,

he shall cause the necessary work to be done to render said building or part thereof temporarily safe until the proper proceedings provided for unsafe buildings by this article are instituted.

3. *Vacating buildings; closing streets and sidewalks.* The superintendent of buildings is hereby authorized and empowered in such cases, and also where any building or part thereof has fallen and life is endangered by the occupation thereof, to order and require the inmates and occupants of such building or part thereof to vacate the same forthwith, and the superintendent may, when necessary for the public safety, temporarily close sidewalks, streets, buildings, structure and places adjacent to such building or part thereof, and prohibit the same from being used. The police commissioner, when called upon by the superintendent of buildings to co-operate, shall enforce such orders or requirements.

4. *Laborers and materials.* For the purposes of this section, the superintendent of buildings shall employ such laborers and materials as may be necessary to perform said work as speedily as possible.

§639. **Emergency fund.** 1. *Sources.* The corporation counsel shall, on the first day of each and every month, render to each superintendent of buildings an account of and pay over to him the amount of such penalties and costs received by him, together with his bill for all necessary disbursements incurred or paid in said suits, keeping a separate account for each superintendent. Each superintendent shall pay over monthly the amount of such penalties and costs so collected to the comptroller, as a fund for the use and benefit of his bureau.

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2. *Purposes.* The fund aforesaid shall be used for the purpose of paying expenses incurred by the several superintendents of buildings under §638 of this chapter, and also for the purpose of carrying into effect any order or precept issued by any court, judge or justice to any superintendent of buildings. Upon the requisition of the superintendent having jurisdiction, the comptroller shall pay such sums as may be allowed and adjusted by any court of record for such purposes.

*ARTICLE 32.

Enforcement of Chapter.

- Section 650. Notices of requirements or of violations.
651. Emergency measures.
652. Judicial remedies.
653. Judicial orders.
654. Penalties.
655. When violation is a misdemeanor.

*Amended by ord. adopted Nov. 16, 1915; effective Nov. 29, 1915.

650 §650. Notices of requirements or of violations. 1. Issue.

All notices of the violation of any of the provisions of this chapter, and all notices required or authorized by this chapter, directing anything to be done, including notices that any building, structure, premises, or any part thereof, is deemed to be unsafe or dangerous, shall be issued by the superintendent of buildings, and shall have his name affixed thereto.

2. *Contents.* Each such notice or order, in addition to the statement of requirements, shall contain a description of the building, premises or property affected.

3. *Personal service.* All such notices, and any notice or order issued by any court in any proceeding, instituted pursuant to this chapter, to restrain or remove any violation, or to enforce compliance with any provision or requirement of this chapter, may be served by delivering to and leaving a copy of the same with any person violating, or who may be liable under any provisions of this chapter, or who may be designated as provided in subdivision 4 of §653 of this article. They may be served by any officer or employee of the bureau of buildings, or by any person authorized by the said bureau.

4. *Notice by posting.* If the person to whom such order or notice is addressed cannot be found within the City after diligent search shall have been made for him, then such notice or order may be served by posting the same in a conspicuous place upon the premises where such violation is alleged to have been placed or to exist, or to which such notice or order may refer, or which may be deemed unsafe or dangerous, and also depositing a copy thereof in a post-office in the City inclosed in a sealed, postpaid wrapper addressed to said person at his last known place of residence, which shall be equivalent to a personal service of said notice or order upon all parties for whom such search shall have been made, whether residents or non-residents of the State of New York.

651 §651. Emergency measures. 1. Stopping work; vacating and securing building. In case there shall be, in the opinion of the superintendent of buildings, danger to life or property by reason of any defective or illegal work in violation of or not in compliance with any of the provisions or requirements of this chapter, the superintendent, or such person as may be designated by him, shall have the right and he is hereby authorized and empowered to order all further work to be stopped in and about said building, and to require all persons in and about said building forthwith to vacate the same, and to cause such work to be done in and about the building as in his judgment may be necessary to remove any danger therefrom.

2. *Closing street temporarily.* The superintendent of buildings may, when necessary for the public safety, temporarily

close the sidewalks, streets, buildings, structures or places adjacent to said building or part thereof, and the police commissioner, or any of his subordinates, when called upon by the said superintendent of buildings to co-operate, shall enforce all orders or requirements made under this section.

§652. Judicial remedies. 1. *Action or proceeding, generally.* Whenever the superintendent of buildings is satisfied that any building or structure, or any portion thereof, or any drainage or plumbing, the erection, construction or alteration, execution or repair of which is regulated, permitted or forbidden by this chapter, is being erected, constructed, altered or repaired, or has been erected, constructed, altered or repaired, in violation of, or not in compliance with, any of the provisions or requirements of this chapter, or in violation of any detailed statement of specifications or plans submitted and approved thereunder, or of any certificate or permit issued thereunder, or that any provision or requirement of this chapter, or any order or direction made thereunder has not been complied with, or that plans and specifications for plumbing and drainage have not been submitted or filed as required by this chapter, the superintendent may, in his discretion, through the corporation counsel, institute any appropriate action or proceeding at law or in equity to restrain, correct or remove such violation, or the execution of any work thereon, or to restrain or correct the erection or alteration of, or to require the removal of, or to prevent the occupation or use of, the building or structure erected, constructed, or altered, in violation of, or not in compliance with, any of the provisions of this chapter, or with respect to which the requirements thereof, or of any order or direction made pursuant to any provisions contained therein, shall not have been complied with. Any person who shall maintain or continue any building or structure, or any portion thereof, or any drainage or plumbing, in violation of any of the provisions of this chapter, after having been duly notified as in this chapter provided that such building or structure, or any portion thereof, or that such drainage or plumbing is in violation of any provision of this chapter, shall be subject to any action or proceeding and any penalty that is provided in this article for the commission of the violation.

2. *Corporation counsel to act.* The corporation counsel shall institute any and all actions and proceedings, either legal or equitable, that may be appropriate or necessary for the enforcement of the provisions of this chapter.

3. *Courts having jurisdiction.* All courts of civil jurisdiction in the city shall have cognizance of and jurisdiction over any and all suits and proceedings authorized by this chapter to be brought for the recovery of any penalty or the enforcement of any provision of this chapter, and shall

give preference to such suits and proceedings over all others. No court shall lose jurisdiction of any action hereunder by reason of a plea that the title to real estate is involved; provided the object of the action is to recover a penalty for the violation of any of the provisions of this chapter. All civil courts in said city are hereby invested with full legal and equitable jurisdiction to hear, try and determine all such actions and proceedings, and to make appropriate orders and render judgment therein according to law, so as to give force and effect to the provisions of this chapter.

4. *Restraining order.* In any such action or proceeding the city may, in the discretion of the superintendent of buildings and on his affidavit setting forth the facts, apply to any court of record in said city or to a judge or justice thereof, for an order enjoining and restraining all persons from doing, or causing or permitting to be done, any work in or upon such building or structure, or in or upon such part thereof as may be designated in said affidavit, or from occupying or using said building or structure, or such portion thereof as may be designated in said affidavit, for any purpose whatever, until the hearing and determination of said action and the entry of final judgment therein. The court, or judge or justice thereof, to whom such application is made, is hereby authorized forthwith to make any or all of the orders above specified, as may be required in such application, with or without notice, and to make such other or further orders or directions as may be necessary to render the same effectual. No undertaking shall be required as a condition to the granting or issuing of such injunction order, or by reason thereof.

5. *Judgment.* All courts in which any action or proceeding is instituted under this chapter shall, upon the rendition of a verdict, report of a referee, or decision of a judge or justice, render judgment in accordance therewith.

6. *Lien of judgment.* Any judgment rendered in an action or proceeding instituted under this chapter shall be and become a lien upon the premises named in the complaint in such action, to date from the time of filing a notice of lis pendens in the county clerk's office of the county, wherein the property affected by such action, suit or proceeding, is located. Every such lien may be enforced against said property, in every respect, notwithstanding the same may be transferred subsequent to the filing of the said notice.

7. *Lis pendens.* The notice of lis pendens referred to in this section shall consist of a copy of the notice issued by the superintendent of buildings, requiring the removal of the violation and a notice of the suit or proceedings instituted, or to be instituted thereon. Such notice of lis pendens may be filed at any time after the service of the notice issued

by the superintendent as aforesaid; provided he may deem the same to be necessary, or is satisfied that the owner of the property is about to transfer the same to avoid responsibility for having violated a provision of this chapter. Any notice of *lis pendens* filed pursuant to the provisions of this chapter may be vacated and cancelled of record upon an order of a justice of the court in which such suit or proceeding was instituted or is pending, or upon the consent in writing of the corporation counsel. The clerk of the county where the notice is filed, is hereby directed and required to mark any such notice of *lis pendens*, and any record or docket thereof, as vacated and cancelled of record, upon the presentation and filing of a certified copy of an order or of the consent, as aforesaid.

8. *Costs.* In no case shall a bureau of buildings, or any officer thereof, of the city, be liable for costs in any action, suit or proceeding that may have been, or may hereafter be, instituted or commenced in pursuance of this chapter.

9. *Officers not liable for damages.* No officer of a bureau of buildings, acting in good faith and without malice, shall be liable for damages by reason of anything done in any action or proceeding instituted under any provision of this chapter, or by reason of any act or omission in the performance of his official duties.

§653. **Judicial orders.** 1. *To comply with building notices.* **653**
In case any notice or direction authorized to be issued by this chapter is not complied with within the time designated therein, the city, by the corporation counsel, may, at the request of the superintendent of buildings, apply to the Supreme Court, at a special term thereof, for an order directing the superintendent to proceed to make the alterations or remove the violation, as the same may be specified in said notice or direction.

2. *To vacate for violations.* Whenever any notice or direction so authorized shall have been served as directed in this article, and the same shall not have been complied with within the time designated therein, the corporation counsel shall, at the request of the superintendent of buildings, in addition to, or in lieu of any other remedy provided for by this chapter, apply to the Supreme Court, at a special term thereof, for an order directing the superintendent to vacate such building or premises, or so much thereof as he may deem necessary, and prohibiting the same to be used or occupied for any purpose specified in said order until such notice shall have been complied with.

3. *Responsibility of lessees or occupants.* In case any of the notices or orders of the court herein mentioned shall be served upon any lessee or party in possession of the build-

ing or premises therein described, it shall be the duty of the person upon whom such service is made to give immediate notice to the owner or agent of the building or premises named in the notice, if such person shall be within the limits of the city, and his residence be known to such person, and, if not within the city, by depositing said notice in any post-office in the city, properly inclosed in a post-paid wrapper addressed to such owner or agent at his then known place of residence.

4. *Designation by an owner of a building.* Any owner of real estate or of a building thereon may execute and acknowledge a written designation of a resident of said city, as a person upon whom may be served, any notice of violation, notice to make safe, notice of survey, summons, mandate, or any paper or process, issued under a provision of this chapter, and may file the same, with the written consent of the person so designated, duly acknowledged, in the office of the superintendent of buildings. The designation must specify the location of the property with respect to which the designation is made, the residence and place of business of the person making it and of the person designated. It shall remain in force during the period specified therein, if any, or until revoked by the death or legal incompetency of either of the parties, or by the filing of a revocation by either of the parties, duly acknowledged and indorsed with the consent of the superintendent of buildings. The superintendent of buildings shall file and index each designation and shall note, upon the original designation and index, the filing of a revocation. While the designation remains in force, as prescribed in this section, a notice of violation, notice to make safe, notice of survey, summons, mandate, or any paper or process under the provisions of this chapter, or either of the same, shall be served upon the person so designated, in like manner and with like effect, as if it were served personally upon the person making the designation, notwithstanding his presence in the city.

5. *Reimbursement of city for expenses.* The expenses and disbursements incurred in the carrying out of any order issued as provided in subdivision 2 of this section, shall become a lien upon the building or premises named in the order, from the time of filing of a copy of the said order, with a notice of the pendency of the action or proceeding as provided in this chapter, taken thereunder, in the office of the clerk of the county where the property affected by such action, suit or proceeding is located; and the Supreme Court, to whom application shall be made, is hereby authorized and directed to grant any of the orders above named, and to take such proceedings as shall be necessary to make the same effectual, and any justice to whom application shall be made is hereby authorized and directed to enforce such lien in accordance with the mechanics' lien laws applicable to the city.

§654. Penalties. 1. *General.* Except as hereinafter provided with respect to the amount of the penalty the owner of any building, structure or part thereof, or wall, or any platform, staging or flooring to be used for standing or seating purposes, or the owner of the land where any violation of this chapter shall be placed, or shall exist, and any architect, builder, plumber, carpenter, mason or other person who may be employed or assist in the commission of any such violation, and any and all persons who shall violate any of the provisions of this chapter or fail to comply therewith, or any requirement thereof, or who shall violate or fail to comply with any detailed order or rule made thereunder, or who shall build in violation of any detailed statement of specifications or plans, submitted and approved thereunder, shall severally, for each and every such violation and non-compliance, respectively, forfeit and pay a penalty in the sum of not less than ten dollars nor more than fifty dollars.

2. *Heating plant and fire prevention violations.* Any person who shall violate any of the provisions of this chapter, as to the construction of chimneys, fireplaces, flues, hot-air pipes and furnaces, or who shall violate any of the provisions thereof relating to the framing or trimming of timbers, girders, beams, or other woodwork in proximity to chimney flues or fireplaces, shall forfeit and pay a penalty in the sum of one hundred dollars.

2a. *Violations of the provisions for the registration of plumbers.* Any person, corporation or copartnership violating any of the provisions of §604 of this chapter, relating to the registration of plumbers shall be fined for such offense in a sum not exceeding \$250, or by imprisonment not exceeding 3 months, or by both, and in addition, shall forfeit any certificate of registration that may be held at the time of such conviction, provided, however, that when such violation is for the provision relating to the posting of a metal plate, no penalty for imprisonment shall be imposed, and the fine shall not exceed \$50 for the first offense, but not less than \$100 nor more than \$500 for a subsequent offense. (Added by ord. effective July 7, 1916.)

3. *Continuing violation, after notice.* Any person who having been served with a notice as in this chapter prescribed, to remove any violation, or comply with any requirement of this chapter, or with any order or rule made thereunder, shall fail to comply with said notice within ten days after such service or shall continue to violate any requirement of this chapter in the respect named in said notice shall pay a penalty of not less than fifty dollars nor more than two hundred and fifty dollars.

4. *Jurisdiction of penalty actions.* For the recovery of any

such penalty, an action may be brought in any municipal court, or court of record, in said city in the name of the city; and whenever any judgment shall be rendered therefor, the same shall be collected and enforced, as prescribed and directed by the code of civil procedure of the state of New York.

5. *Discontinuance of action upon removal of violation.* If any violation shall be removed or be in process of removal within ten days after the service of a notice as in this chapter prescribed, the liability of such penalty shall cease, and the corporation counsel, on request of the superintendent of buildings, shall discontinue any action pending to recover the same, upon such removal or the completion thereof within a reasonable time.

6. *Remission of penalty.* The superintendent of buildings, through the corporation counsel, is hereby authorized, in his discretion and upon good and sufficient cause being shown therefor, to remit any penalty which any person may have incurred, or may hereafter incur, under any of the provisions of this chapter; but no such penalty shall be remitted until the violation shall have been removed. The superintendent of buildings is further authorized in his discretion to remit any costs allowed or obtained in any penalty suit or any other action or proceeding instituted under the provisions of this article.

655 §655. When violation is a misdemeanor. Any person who shall receive and fail to comply with any written peremptory order of the superintendent of buildings issued only when an immediate compliance with such order is essential to the public peace or safety, within the time specified in such order, shall be guilty of a misdemeanor.

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APPENDIX

NEW YORK PLASTERING LAW

CHAPTER 156.

An Act to amend the general city law, in relation to the supervision and regulation of plastering in cities of the first class.

Became a law May 19, 1911, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Chapter twenty-six of the laws of nineteen hundred and nine, entitled "An Act in relation to cities, constituting chapter twenty-one of the consolidated laws," is hereby amended by inserting therein a new article, to be article four-a thereof, to read as follows:

ARTICLE 4-a.

Supervision and regulation of plastering.

Section 60. Supervision of plastering by building department.

61. Three coat work required on lath.
62. Key space.
63. First coat or scratch coat.
64. Second coat.
65. Finishing.
66. Cornices or coves.
67. Patent plasters.
- 68.

§60. **Supervision of plastering by building department.** The building department of every city of the first class shall have jurisdiction over all plastering except where it conflicts with the duties of any other department or conflicts with any law conferring on any other department supervision of any portion of plastering. For such purpose there shall be appointed in each building department in a city of the first class by the head thereof a sufficient number of inspectors to perform such work as is necessary in the enforcement of this article who, in addition to such qualifications as may be required by the civil service law, shall be competent plasterers of at least ten years' practical experience.

§61. **Three coat work required on lath.** All plastering on tenements, apartments, hospitals, schools and other public buildings when on lath shall be known as three coat work, namely, scratch coat, brown coat and finish.

§62. **Key space.** All ceilings, stud partitions and furred walls in tenements, apartments, hospitals, schools and other public buildings where plastered with lime on wood lath shall have not less than three-eighths space between lath. All grounds and jambs shall mean* not less than seven-eighths from the stud.

§63. **First coat or scratch coat.** First or scratch coat shall be of first quality to be scratched thoroughly to make a key to retain second coat; and shall be thoroughly dry or set before applying second coat.

§64. **Second coat.** Second coat or brown mortar shall be of first quality. All browning must be straight, true with no unevenness or irregularity of surface.

§65. **Finishing.** When white mortar, or any other material of a like character, is used for finish coat, it shall be laid on regular and troweled to a smooth surface showing neither deficiencies nor brush marks.

§66. **Cornices or coves.** All cornices or coves shall be run straight, true and smooth.

§67. **Patent plaster.** When patent plasters, such as ivory, acme, windsor, etcetera, are used, lathing, if of wood lath shall not be less than one-quarter inch key space. First coat shall be thoroughly scratched to make key to retain second coat, and shall be set before second coat is applied.

§68. Nothing in this article contained shall affect the tenement house act and the enforcement of the provisions thereof by the city of New York.

Section 2. This act shall take effect January first, nineteen hundred and twelve.

(*So in original. Should read "be.")

RULES FOR INSPECTORS OF PLASTERING

1. WOOD LATH.

a. All wood lathing shall be done with the best quality sawn white pine or spruce lath set not less than $\frac{3}{8}$ inch apart for lime or lime and cement mortars and not less than $\frac{1}{4}$ inch apart for hard wall plaster mortars.

b. The lath shall not be less than $1\frac{1}{4}$ inches x $\frac{1}{4}$ inch, nor wider than $1\frac{1}{2}$ inches.

c. The wood shall be well seasoned and free from bark, sapwood or dead knots.

d. All wall and ceiling lath shall be nailed with at least four nails to each lath where studding or furring is 16 inches on centers, and with five nails to each lath where furring is spaced 12 inches on centers.

e. Lath in walls shall be laid horizontally, and in ceilings shall run in one direction only. The joints shall be broken at least every tenth lath.

f. Three-coat work, scratch, brown and finish coats, shall be required on wood lath.

2. METAL LATH.

a. All expanded metal and sheet metal lath shall be not lighter than No. 27 U. S. gauge, galvanized, painted with an asphaltum compound, or japanned.

b. All wire lath shall be not lighter than No. 20 U. S. gauge, galvanized, painted with an asphaltum compound, or japanned.

c. All metal lath shall be lapped at least 1 inch at the ends, and at the sides of the sheet the lath shall be lapped in such a manner to insure a good job.

d. All expanded sheet metal and wire lath shall be of a type suitable to form a proper key and firmly retain the plaster.

e. In furring over structural sheathing or solid wood work, metal lath shall be kept at least $\frac{3}{8}$ inch away from the wood surface by furring strips.

f. All metal lath without stiffeners shall be tied or laced at least every six inches vertically to the furring or studs with No. 18 U. S. gauge annealed, galvanized wire, and all lath with stiffeners at least at 8-inch intervals; at lap joints horizontally, between the studs, a similar tie shall be provided. The ends of all tie wires shall be twisted tight with a double turn and bent back flush with the face of the lath.

g. Expanded or sheet metal lath of No. 24 gauge or less fastened to wood studs, shall be stapled at least at 6-inch

intervals and the laps between the studs securely laced. All stiffened wire lath on wood studs, shall be stapled over the rod or "V" stiffener, and the laps between studs properly tied.

3. FURRING AND STUDDING FOR METAL LATH AND PLASTER OR PLASTER BOARD PARTITIONS AND CEILINGS.

a. All furring or studding for metal lath and plaster partitions shall have a minimum spacing of 12 inches and a maximum spacing of 16 inches corresponding to the lath as specified in Table 1.

b. All furring in ceiling shall have a minimum spacing of 12 inches and a maximum spacing of 16 inches corresponding to the lath as specified in Table 1.

c. *Table 1.*

Types of Metal Lath U. S. Standard Gauge.	Maximum Spacing of Studding or Furring.	
	Hung and Clipped Ceilings.	Solid and Hollow Partitions.
No. 22 gauge expanded metal lath with ribs at least 3-32 in. wide, weighing at least 4 1-3 pounds per square yard	16-inch	16-inch
No. 24 gauge expanded metal lath with ribs at least 2-32 in. wide, weighing at least 3 1-3 pounds per square yard	14-inch	16-inch
No. 24 gauge expanded metal lath of less weight	12-inch	16-inch
No. 27 gauge expanded metal lath or sheet metal lath .....	.....	12-inch
No. 18 gauge wire lath 2 by 2 mesh	12-inch	14-inch
No. 18 gauge wire lath 2½ by 2½ mesh	12-inch	16-inch
No. 20 gauge wire lath 2½ by 2½ mesh	12-inch	14-inch
No. 20 gauge V-stiffened wire lath or with rods or stiffeners 7½ or 8 inch on centers.....	16-inch	16-inch

d. For both solid and hollow metal lath and plaster partitions, the studs or furring bars shall be 1-inch x ¾-inch

x $\frac{7}{8}$ -inch, channels or angles, tees or flats of equivalent sectional area and strength spaced 12-inch to 16-inch centers according to the lath used. Where necessary, the steel furring strips shall be properly braced and bolted laterally; and shall be securely fastened to floor and ceiling construction by bent knees, slotted clips or runner plates of approved types.

e. All furring for suspended or clipped ceilings shall be of sufficient weight and strength to support the load imposed and shall consist of at least $\frac{3}{4}$ -inch channels or their equivalent for spans up to five feet and not lighter than 1-inch x $\frac{3}{8}$ -inch x $\frac{1}{8}$ -inch channels or other approved sections of equivalent strength for spans up to seven feet. The spacing of furring bars shall correspond with the type of lath used. For spans over seven feet, the sectional area and the strength of furring bars shall be increased proportionately or intermediate supports shall be provided, of hangers or clips securely fastened to the bottom flanges of steel beams or anchored to the arch construction above. All supporting clips used for the purpose of receiving and supporting the furring bars for ceilings shall be made from stock weighing not less than 0.4 pounds per lineal foot and of sufficient strength to sustain the dead load imposed.

f. Cross-furred and suspended ceilings shall be constructed of continuous running bars equivalent in strength and sectional area to a $1\frac{1}{2}$ -inch x $1\frac{1}{2}$ -inch x 3-16-inch angle suspended by hangers from the lower flanges of the structural steel framing. The cross-furring shall be securely bolted or clipped to or passed through the running bars. If "hairpin" clips are used they shall be of not less than No. 9 annealed and galvanized wire and shall pass up on both sides of the furring bar and be securely hooked over the running bar. The hangers shall be of not less than 1-inch x 3-16-inch flats, clamped to both sides of the steel beams.

g. Clipped ceilings shall be not more than 4 inches below the steel beams.

h. Bolts used for attaching running bars to hangers shall be not less than $\frac{3}{8}$ -inch in diameter and for attaching furring irons to running bars not less than $\frac{1}{4}$ -inch bolts shall be used.

i. In the case of heavy, ornamental ceiling work, special provision shall be made to sustain the load.

j. Proper ventilation should be provided where hung ceilings are used to take care of the condensation of moisture.

k. Three-coat work, scratch, brown and finish coats, shall be required on metal lath.

4. PLASTER BOARD.

a. All plaster boards consisting of plaster of Paris reinforced with strong fibre shall be not less than $\frac{3}{8}$ -inch thick, except in tenement houses, where a minimum thickness of $\frac{1}{2}$ -inch is required, and shall be of a type approved by the Bureau of Buildings.

b. The boards shall be spaced $\frac{1}{4}$ -inch apart on all sides and shall be nailed directly to all wood studding or furring with $1\frac{1}{4}$ -inch wire nails at least No. 11½ gauge, with flat $\frac{3}{8}$ -inch heads. The nails shall be spaced not more than 6 inches apart for walls, and not more than 4 inches apart for ceilings.

c. The joints shall be broken every other board horizontally on walls, and at right angles to the furring on ceilings.

d. All joints and spaces between plaster boards shall be filled with hard wall plaster mortar and allowed to thoroughly set before browning.

e. When three-coat work is specified, the joints or spaces between the boards may be filled at the time of putting on the scratch coat, using the same material.

f. Plaster boards shall not be wet before plastering.

g. Two-coat work of hard plaster mortars shall be required on plaster boards of the above description.

5. LIME.

a. Lime used for plastering shall be of the best quality evenly and thoroughly burned limestone. It shall be free from clinkers with not more than 15 per cent. of other impurities. It shall slake readily in water, forming a fine, smooth paste without residue in excess of 15 per cent.

6. SAND.

a. The sand shall be of angular grains, sharp, properly screened and free from loam and other deleterious substances.

7. HAIR BINDER.

a. The binder shall be water-soaked, well beaten, clean, long winter hair or approved vegetable fibre cut in 2-inch to 3-inch lengths.

8. SCRATCH COAT.

a. The scratch coat shall be at least 3-16-inch to $\frac{1}{4}$ -inch thick, and shall be well keyed into the lath. It shall be scored or scratched with diagonal lines nearly through its thickness.

b. The mortar shall be mixed in the proportions of one barrel of lump lime, $2\frac{1}{2}$ barrels of clean, sharp sand, and the binder in the proportion of two pounds of hair or three

pounds of fibre to 100 pounds of lump lime. Or the mix may be proportioned as follows: to 1,000 pounds of unslaked lime of standard quality, add one cubic yard of screened, sharp sand and 10 pounds of hair.

9. BROWN COAT.

a. The brown coat shall be at least $\frac{1}{4}$ -inch thick and shall not be applied until the scratch coat is dry. It shall be brought to a true plane by screeding horizontally or some other acceptable method and floating to an even surface. The brown coat must be straight and true.

b. The mortar shall be composed of one barrel of lump lime to five barrels of sand with binder in the proportion of one pound of hair or fibre to 100 pounds of lump lime. Or the mix may be proportioned as follows: to 500 pounds of unslaked lime add one cubic yard of screened, sharp sand and $2\frac{1}{2}$ pounds of hair.

10. FINISH COAT.

a. The hard finish coat shall be the best quality of prepared finish or well slaked lime putty gauged with plaster of Paris, or plaster of Paris with marble dust of white sand in combination.

b. The mix shall be proportioned as follows: to one part of plaster add two parts of white mortar.

c. If sand finish is used it shall be applied before the brown coat is quite dry, or if dry, the brown coat should be wet down and the sand coat troweled or floated to the desired finish.

11. MIXING.

a. Scratch coat. The lime shall be thoroughly slaked, the putty being allowed to cool before incorporating the hair to avoid burning. The proper amount of sand shall then be added and thoroughly mixed and the mortar banked for at least three days.

b. Brown coat. The mortar shall be prepared as for scratch coat, and banked for at least three days before using.

c. Finish coat or white mortar. The lime shall be thoroughly slaked in a box, mixing in a small proportion of white sand or marble dust. It shall be then run through a No. 10 mesh wire sieve into a storage box and allowed to stand for at least 48 hours before gauging with plaster and applying the finish coat.

d. Machine-mixed mortar shall be made from lime putty.

e. Hydrated limes of approved brands may be used in place of lump lime.

f. All frozen mortar shall be discarded.

12. PLASTERING NOTES.

a. All plastering on lath in tenements, apartments, hospitals, schools and other public buildings shall be known as three-coat work, namely, scratch coat, brown coat and finish coat.

b. On brick and fireproofing, all plastering shall be done in the brown and finishing coats. Where waterproofing is applied to the interior surface of the wall, the same shall be furred down before plastering, or the mortar gauged with plaster of Paris.

c. When plastering is applied to concrete surfaces, the surface shall be clean, free from oil and properly prepared for binding and keying the plaster; or the work shall be furred down.

d. Walls of brick or stone must be thoroughly cleaned and the joints left rough or open before the plastering is applied.

e. The brown coat shall be well floated to a true and even surface flush with the grounds.

f. No "laid off" work shall be permitted but each coat shall be thoroughly dry or set before the next coat is applied.

g. All surfaces shall be straight edged in every direction, ceilings level and all jambs and angles straight and true.

h. When plastering is done, the building shall be kept in working condition and properly enclosed against the weather.

13. GROUNDS.

a. Base grounds. In all rooms and halls there shall be a base ground or what is known as a ribbon ground. Soldier grounds can be placed from floor to ribbon ground and if such are used, they must not extend out past ribbon grounds or partition plates on floor. Where picture moulding or Dutch shelf grounds, etc., are used, they should receive the same treatment as the base grounds.

b. Window and door grounds. All windows shall be grounded top and bottom unless equivalent provision is made through the use of window frames.

All door, portiere or grille openings shall be grounded top and sides with bucks formed by turning joist on 4-inch way, or with a plain ground which shall not extend past base or moulding grounds.

c. On brickwork, concrete and terra cotta, $\frac{1}{2}$ -inch grounds shall be used. Where wood lath is used, the ground and jambs shall project not less than $\frac{7}{8}$ -inch from the stud, and where metal lath is used, not less than $\frac{5}{8}$ -inch.

14. BATH ROOMS. TILE ON METAL LATH.

a. Where bath rooms are furred with metal lath to receive tile, the mortar shall be composed of one part of Portland cement, three parts of clean, sharp sand and ten per cent. of lime putty or hydrated lime with sufficient hair.

b. The scratch coat shall be well keyed into the lath and scratched with diagonal lines to receive the tile.

15. CORNICES, GROINED, DOME AND BARREL CEILINGS.

a. All cornices, coves and bull noses shall be run with moulds and properly furred and metal lathed.

b. Ornamental ceilings shall be constructed in a manner similar to suspended ceilings with the necessary modifications of brackets, frames and supports to conform to the required outline. All furring should be bolted and clipped together and securely anchored. No furring shall be tied up.

16. PATENT OR HARD WALL PLASTERS.

a. Hard wall plasters shall be of approved brands and shall be received at the building operations in the manufacturers' original packages and shall be mixed and applied in accordance with his specifications.

17. KEENE CEMENTS.

a. Keene cements shall be of approved brands, and shall be applied according to the manufacturers' specifications.

b. The base coat may be prepared with Portland cement in the proportions of one part Portland cement, to three parts clean, sharp sand.

c. The finish shall be well trowelled to a polished surface.

CITY OF NEW YORK
CODE OF ORDINANCES.

Excerpts from Chapter 23—Streets.

ARTICLE 13.

OBSTRUCTIONS AND INCUMBRANCES.

§140. **Special uses of streets.** No person shall, except as otherwise provided in this code, incumber or obstruct any street or sidewalk which has been opened, regulated or graded, according to law, with any article or thing whatsoever. (Amended by ord. approved Aug. 8, 1916.)

§141. **Building construction, sidewalk bridges.** Persons who desire to erect large buildings may erect and maintain a bridge, not to exceed 7 feet in height above the sidewalk and 6 feet in width, extending the whole length of the proposed building; the steps leading to the same to rest upon the sidewalk of the adjoining premises.

§142. **Building material.** 1. *Permit.* The president of each borough shall have the power to grant permits to builders to occupy not to exceed one-third of the carriage-way of any street with building material; provided in his opinion the interests and convenience of the public will not suffer thereby. At the time of placing such material in the street, the permit so granted shall forthwith be posted in some conspicuous place on or near the material and shall be kept there so as to be readily accessible to inspection. (Amended by ord. effective May 2, 1916.)

2. *Conditions.* Such permits shall provide expressly that they are given upon condition that the sidewalks and gutters shall at all times be kept clear and unobstructed, and that all dirt and rubbish shall be promptly removed from time to time by the party obtaining such permit, and that all such permits may be revoked by the borough president, at pleasure. (Id.)

3. *Deposits.* Except as otherwise specifically provided in this article, no such permit shall be granted to any builder unless he shall, at the time said permit is granted, have on deposit with the borough president the sum of \$50, as a guarantee that he will promptly comply with the conditions of all permits which may be so granted, including the prompt removal of all dirt and rubbish placed upon the street from time to time, and also for the prompt removal¹

after the expiration or revocation of any such permit, or any building material placed upon any street thereunder. Each borough president is hereby authorized and empowered to use so much of the moneys so deposited as may be required to effect the prompt removal of such dirt or rubbish as may, from time to time, be left upon the streets by the party making the deposit, and also for the purpose of removing any building material which may remain thereon, after the expiration or revocation of any permit, under which it was so placed. In case any such deposit shall become impaired or exhausted, by its use by a borough president in the removal of dirt, rubbish, or building material, the amount shall be made up immediately, to the sum of \$50, on notice from the borough president, and, in default thereof, all permits theretofore issued to the builder failing to comply with such notice shall be revoked, and no permit shall be thereafter granted to him until such deposit be made good. Any builder may, at any time, withdraw his deposit; provided he shall hold no unexpired permits and have fully complied with all the conditions of all permits theretofore issued, otherwise said builder shall be only entitled to withdraw and receive as much of the deposit as may remain unexpended after the provisions of this section, relative to the use of said money for the removal of dirt, rubbish or building material, as the case may be, have been carried into effect. (Id.)

4. *Restrictions.* a. In placing building materials in a street, the material shall be so placed as not to occupy more than one-third of the width of the carriageway of the street. In a street upon which there is a railroad, materials shall not be placed nearer to the track than 2 feet.

b. In no case shall building material be placed, nor shall mortar, cement or other material be mixed upon the pavement of a street paved with asphalt, asphalt block or wood, except under a permit issued by the borough president having jurisdiction, which shall contain a provision that such pavement shall be protected by first laying planks thereon. Borough presidents, or other officers issuing permits to builders to use the streets, shall insert in each such permit a clause requiring compliance with this provision.

5. *Unauthorized obstructions.* Whenever any wood, timber, stone, iron or other building material has been or shall be put or placed in or upon any street, without a permit, the borough president having jurisdiction shall forthwith cause the same to be taken up and removed.

§150. **Storm-doors.** Storm-doors not exceeding 10 feet in height, nor more than 2 feet wider than the doorway

or entrance of any building, may be temporarily erected within the stoop-line; providing a permit therefor shall have been obtained from the borough president having jurisdiction; but in no case shall any storm-door extend more than 6 feet outside the house-line. No structure under the name of "storm-door" shall be lawful which shall practically be an extension of the building front or house front within the stoop-line, or an enlargement of the ground floor of any premises.

CODE OF ORDINANCES.

CHAPTER 23.

ARTICLE 14.

PROJECTIONS AND ENCROACHMENTS.

Section 160 of Article 14 of Chapter 23 of the Code of Ordinances:

Projections prohibited.

No areas, steps or other projections beyond the building line except those indicated in paragraphs c, d, e, f and h of sub-division 4, section 170, Chapter 5 of this Code of Ordinances, shall be built, erected or made upon the following streets, namely:

a. Grand Boulevard and Concourse, in the Borough of The Bronx, between East 161st Street and Mosholu Parkway; excepting that areas as defined by paragraph a of subdivision 4, section 170, chapter 5 of the Code of Ordinances may be erected in that section of the Grand Boulevard and Concourse in the Borough of The Bronx, located within a business use district as established by the building zone resolution adopted by the Board of Estimate and Apportionment;

b. On Coney Island Avenue, from the Plaza at Parkside Avenue to Neptune Avenue, in the Borough of Brooklyn;

c. On Newkirk Avenue, between Flatbush Avenue and Coney Island Avenue, in the Borough of Brooklyn. (Amended as above April 24, 1920.)

Section 161 of Article 14 of Chapter 23 of the Code of Ordinances.

Areas; special restrictions.

Every existing area that is open at the top shall be enclosed with an iron railing in front, and on the sides where there is an opening used for the purposes of ingress and

egress, such railing to be at least 3 feet high measured from the base and capable of sustaining a lateral weight of 300 pounds at any part thereof, the gates of which, if any, shall be so constructed as to open inwardly. (Amended as above July 10, 1918.)

Section 164 of Article 14, Chapter 23, of the Code of Ordinances:

Cellar steps; cellar doors.

Every entrance or flight of steps, now existing and projecting beyond the line of the street and descending into any cellar or basement story of any house or other building, where such entrance or flight of steps shall not be covered, shall be inclosed with a railing on each side, permanently put up, from 3 to 3½ feet high, with a gate to open inwardly, or with 2 iron chains across the front of the entranceway, 1 near the top and 1 in the centre of the railing, to be closed during the night, unless there be a burning light over the steps, to prevent accidents. Where such entrance is covered by a cellar door such door shall be kept in good repair, and shall not be permitted to remain open except when in actual use for ingress or egress of persons or for the loading or unloading of things out of or into such cellar or basement story. (Amended as above April 4, 1918.)

CODE OF ORDINANCES.

CHAPTER 23.

ARTICLE 16.

SIGNS AND SHOW BILLS

- Section 210. General provisions.
- 211. Ground signs and roof signs.
 - 212. Ground signs, special provisions.
 - 213. Roof signs, special provisions.
 - 214. Signs on walls.
 - 215. Illuminated signs.
 - 216. Unsafe signs.
 - 217. Unlawful signs.
 - 218. Alteration of existing signs.
 - 219. Exemptions.
 - 220. Retroactive effect.
 - 221. Inspections.
 - 222. Public signs, protection of.
 - 223. Violations.

§210. **General provisions.** Except as otherwise specified in the succeeding sections of this article, signs, showbills

and showboards may be placed on the fronts of buildings, with the consent of the owner thereof. They shall be securely fastened, and shall not project more than 1 foot from the house wall, except that signs may be hung or attached at right angles to any building, except a building in the Borough of Manhattan, on Fifth avenue, between Washington square north and 110th street, or on 34th street, between Fourth avenue and Seventh avenue, or on Madison avenue, between 34th street and 72d street, or on 57th street, between Lexington avenue and Broadway, and extend, not to exceed 3 feet therefrom, in the space between the second floor and a point 8 feet in the clear above the level of the sidewalk in front of such building. Signs may be attached to the sides of stoops, but not to extend above the railing or beyond the stoop-line of any stoop. No sign, showbill, or showboard shall be placed, hung or maintained except as prescribed in this article. (Effective Dec. 23, 1920.)

§211. **Ground signs and roof signs.** 1. *Permits required.* No ground sign or roof sign shall be erected until a permit therefor shall have been issued by the superintendent of buildings having jurisdiction. Each superintendent of buildings may prescribe suitable regulations, consistent with the provisions of this article, concerning the forms and contents of applications for the various forms of permits. (Ord. effective May 29, 1914.)

2. *Plans and specifications.* No such permit shall be issued unless plans and specifications, showing the dimensions, material and details of construction of the proposed sign, accompanied by the written consent of the owner or lessee of the property upon which it is to be erected, shall have been filed with the superintendent of buildings having jurisdiction, nor until all of the provisions of the Building Code, relating to such structures, shall have been complied with. (Id.)

3. *Illuminated signs.* In the case of a sign illuminated by electricity, a certificate must also be procured from the department of water supply, gas and electricity, certifying that the electric wiring and electric appliances of the proposed sign are in conformity with the rules and regulations of said department. (Id.)

4. *Fees.* Before any permit shall be issued under this section, a fee therefor shall be paid to the appropriate bureau of buildings as follows: For ground signs, \$2; for roof signs having a tight, closed or solid surface, \$5; for roof signs not having a tight, closed or solid surface, \$10; provided that each face of any such sign structure, when fronting on different streets shall be considered to be a separate sign. (Id. amended Feb. 9, 1915.)

***5. Existing structures.** Permits shall be issued for signs existing on the 29th day of May, 1914, not conforming to the requirements of §§212 and 213 of this chapter, provided such signs were erected and are maintained in conformity with the legal requirements in effect when they were erected, but no fees shall be charged for permits or registration for existing signs.

6. Registration and identification. Every ground-sign and roof-sign existing or hereafter erected, shall be registered with the bureau of buildings of the borough in which such structure is situated, by the person maintaining the same, and shall have displayed upon the front thereof the name and address of such person, and the serial number of the permit issued for such structure. The bureau of buildings may issue permits in several series so as to distinguish between existing signs and new sign structures erected in conformity with this article, or between various classes of signs. (Id.)

§212. Ground signs; special provisions. 1. Construction. No ground, fence, billboard or sign within the fire limits of the city shall be at any point over 12 feet above the ground; provided that when the face of any sign, excepting the ornamental moulding thereof, shall be constructed entirely of metal or of wood covered on all sides with sheet metal, the sign shall not be at any point over 24 feet above the ground. (Ord. effective May 29, 1914.)

2. Maintenance. Any persons occupying any vacant lot or premises with a billboard, sign or other advertising structure or device shall be subject to the same duties and responsibilities as the owner of the lot or premises, with respect to keeping the same clean, sanitary, inoffensive and free and clear of all noxious substances in the vicinity of such billboard, sign, structure or device, and with respect to the removal of snow from the sidewalk and curb in front thereof. (Id.)

§213. Roof signs; special provisions. 1. Construction. All roof sign structures shall be so constructed as to leave a clear space of at least 7 feet between the roof level and the lowest part of the structure, and at least 5 feet between the vertical supports thereof; such structures shall be set back at least 6 feet from the face of the front and rear walls and shall not interfere with any openings in the roof or with any fire escape. Such structures, excepting the ornamental surface moulding thereof, shall be constructed entirely of metal, including the uprights, supports and braces for same, and shall be required to bear a wind pressure of not less than 30

*Effective Feb. 27, 1917.

pounds to the square foot of area subject to such pressure. (Ord. effective May 29, 1915.)

2. *Restrictions.* a. No roof sign structure having a tight, closed or solid surface, shall be at any point over 31 feet above the roof level.

b. Roof sign structures, not having a tight, closed or solid surface may be erected upon fireproof buildings to a height not exceeding 75 feet above the roof level, and upon non-fireproof buildings to a height not exceeding 50 feet above the roof level, but the portions of such structures covered and exposed to wind pressure shall not exceed 35 per cent. of the total area. (Id.)

§214. **Signs on walls.** 1. *Construction.* No sign shall be erected upon the front, rear or side wall of any building so as to project above either the roof cornice or parapet wall, or above the roof level where there is no cornice or parapet wall; except that a sign erected at a right angle to the building, the horizontal width of which sign, parallel to such wall, does not exceed 2 feet, may be erected to a height not exceeding 2 feet above the roof or cornice or parapet wall, nor above the roof level where there is no cornice or parapet wall. A sign attached to a corner, and parallel to the vertical line of such corner, shall be deemed erected at a right angle to the building wall. (Ord. effective May 29, 1914.)

2. *Restriction.* No such sign shall be so erected as to cover the doors or windows of any building, or otherwise prevent free ingress or egress to or from any window, door or fire escape on any building. (Id.)

§215. **Illuminated signs.** 1. *Application of preceding sections.* Except as hereinafter specifically prescribed, all provisions of §§211 to 214, inclusive, of this article, shall apply to the continuance, construction, alteration, reconstruction and maintenance of illuminated signs, as hereinafter defined. (Ord. effective July 24, 1912; amended by ord. effective May 2, 1916.)

2. *Issue of permits.* All permits for illuminated signs shall be issued by the city clerk, upon application therefor, approved by the commissioner of water supply, gas and electricity and the superintendent of buildings in the case of electric signs, and, in the case of gas signs, by the fire commissioner and the superintendent of buildings. A permit or renewal thereof issued hereunder, upon the expiration thereof or within 30 days thereafter, may be renewed for a period of 1 year; and, upon the payment by the applicant of the fee therefor and the surrender of the old permit, accompanied by satisfactory proof in the form of an affidavit that the illuminated sign is the same as when originally licensed, and that the wiring or piping of the sign is in good condition the

city clerk may issue the permit, excepting that no permits shall be issued under the provisions of this article for the erection and maintenance of illuminated signs, except carriage calls, *and except illuminated signs existing upon theatres, or other places of amusement, upon December 13, 1921*, on a building in the Borough of Manhattan, on Fifth avenue between Washington square north and 110th street, or on 34th street between Fourth avenue and Seventh avenue, or on Madison avenue between 34th street and 72d street, or on 57th street between Lexington avenue and Broadway. Each such permit shall be kept upon the premises whereon the sign is placed, either in the possession of the person in charge or his agent. (Approved by the Mayor December 16, 1921.)

3. *Definition.* Any letter, word, model, sign, device or representation, used in the nature of an advertisement, announcement or direction, illuminated by electricity or gas, extending over the sidewalk, shall be deemed to be an illuminated sign. No such sign shall be illuminated otherwise than by electricity or gas. (Amended by ord. approved Aug. 8, 1916.)

4. *Fee for permit.* The applicant for a permit to construct or maintain an illuminated sign shall pay to the city clerk an annual fee of 10 cents for each square foot of sign space or part of square foot of such sign space displayed on such sign, to be computed and collected by the city clerk. The square feet of sign space on one side of an illuminated sign, however, shall be deemed to constitute the entire number of square feet of sign space, for the purpose of computing the license fee referred to herein. (Id.)

5. *Consent of owner of adjoining residence.* No permit shall be issued for the erection of an illuminated sign upon a building which adjoins another occupied exclusively as a private residence, until the applicant for the permit shall have filed the written consent of the owner of such residence to the erection of the proposed sign. (Id.)

6. *Restrictions.* a. No illuminated sign shall extend more than 8 feet from the building line, except that on authorized marquee awnings the illuminated signs may extend the entire length and width of the awning, but not more than 8 feet above, nor 1 foot below said awning; nor shall any such sign be less than ten feet in the clear above the level of the sidewalk beneath the same; nor shall any such sign be placed upon leased premises by the owner of the fee or lessor without the consent in writing of the lessee or sub-lessee, as the case may be.

No illuminated sign, except carriage calls, shall hereafter be erected on any building in the borough of Manhattan, on

Fifth avenue, between Washington square north and 110th street, or on 34th street, between Fourth avenue and Seventh avenue, or on Madison avenue, between 34th street and 72d street, or on 57th street, between Lexington avenue and Broadway, nor shall any existing illuminated sign on any such building be enlarged, nor shall any such sign on such building be replaced or reconstructed in part or in whole by the erection of a new illuminated sign or part thereof, whether under the same permit or a renewal thereof or under another permit, except that an illuminated sign not in the nature of an advertisement may be erected and maintained temporarily on Fifth avenue, 34th street, Madison avenue and 57th street, borough of Manhattan, for a period of not more than one month in connection with the celebration of a patriotic occasion of extraordinary public interest not occurring annually. (Effective Dec. 16, 1921.)

b. All illuminated signs shall be constructed entirely of metal or other incombustible material, except the insulation thereof, if such is to be illuminated by electricity, including the uprights, supports and braces for the same, and shall be properly and firmly attached to the building, and so constructed as not to be or become dangerous. (Ord. effective June 20, 1916.)

c. If such sign is to be illuminated by gas, the gas burners for same shall be located entirely inside of the sign and so arranged and protected as to prevent the flame from being extinguished by the wind. A shut-off valve shall be placed on the gas piping extending from the building to the sign, and so arranged as to permit of the shutting off of the gas from the sign on the outside of the building, in case of necessity. (Added by ord. effective May 2, 1916.)

§216. **Unsafe signs.** Should any fence, sign, billboard or roof sign or sign structure be or become insecure, or in danger of falling, or otherwise unsafe, in the opinion of the superintendent of buildings, the owner thereof, or the person maintaining the same, shall, upon notice from the superintendent, forthwith in case of immediate danger, and, in any case within 10 days, secure the same, under the supervision of and in the manner to be approved by the superintendent, in conformity with the provisions of this article. (Ord. effective May 29, 1914.)

§217. **Unlawful signs.** In any case any sign or sign structure shall be attached at other than a right angle to the wall of the building, extending outside the building line and projecting above the roof cornice or parapet walls or above the roof level, where there is no cornice or parapet wall, or shall be so erected as to prevent free ingress and egress to

and from any door, window or fire escape of any building, the fire commissioner shall notify, by registered mail, the owner or lessee thereof to alter such sign or structure, so as to comply with this article, or to remove the same. If such order is not complied with within 60 days, the fire commissioner shall remove such sign or sign structure at the expense of the owner or lessee thereof. (Ord. effective May 29, 1914.)

§218. **Alteration of existing signs.** No existing fence, sign, billboard, roof sign or sign structure shall be enlarged, rebuilt, structurally altered or relocated, except in accordance with the provisions of this article; provided that this requirement shall not apply to the relettering of illuminated signs except where such relettering requires a change of the wiring or piping of such signs. (Ord. effective May 29, 1914; amended by ord. effective May 2, 1916.)

§219. **Exemptions.** No part of the foregoing sections of this article shall apply to walls constructed wholly or principally of stone, marble, brick, terra cotta, concrete or other like material, composing a masonry or monolithic wall; nor to back yard fences on the ground in the interior of a court; nor to picket fences and ornamental metal fences. (Ord. effective May 29, 1914.)

§220. **Retroactive effect.** Except as expressly provided in §§216 and 217 hereof, this article shall have no retroactive effect. (Ord. effective May 29, 1914.)

§221. **Inspections.** Every sign or sign-structure, for which a permit shall have been issued under any provision of this article, shall be inspected at least once in each calendar year, by or under the direction of the superintendent of buildings having jurisdiction. (Ord. effective May 29, 1914.)

§222. **Public signs, protection of.** No person shall injure, deface, obliterate, mar, remove, take down, loosen, destroy, or in any other manner interfere with or disturb any sign-board containing the name of any street or public place, whether it be upon public or private property.

§223. **Violations.** 1. *Punishment.* No person shall violate any provision of this article under a penalty of \$100 for each offense. No sign or sign structure shall be maintained, contrary to the provisions of this article, under a penalty of \$10 for each day or part of a day the same shall be so maintained. (Ord. effective May 29, 1914.)

2. *Abatement.* Except as otherwise provided in this article, any fence, sign, billboard or roof-sign structure erected or maintained in violation of this article shall be subject, upon notice, to abatement by the superintendent of buildings having jurisdiction. (Id.)

MOVING PICTURES

LAWS OF NEW YORK, CHAPTER 308.

AN ACT to amend the general business law, in relation to the operation of the cinematograph or any other apparatus for projecting moving pictures. Became a law April 17, 1913.

ARTICLE 12-A.

Public Entertainments or Exhibitions by Cinematograph or any Other Apparatus for Projecting Moving Pictures

Section 209. Fireproof booth for cinematograph or any other apparatus for projecting moving pictures.

210. Construction of booth; approval of plans and specifications.

211. This article not retroactive under certain conditions.

212. Inspection; certificate for permanent booths.

213. Portable booth for temporary exhibitions.

214. Exemption and requirements for miniature cinematograph machines.

215. Inspection; certificate for portable booths and inclosures for miniature cinematograph machines.

216. Penalty for violating this article.

§209. Fireproof booth for cinematograph or any other apparatus for projecting moving pictures. No cinematograph or any other apparatus for projecting moving pictures, save as excepted in §§211 and 213 of this article, which apparatus uses combustible films of more than ten inches in length, shall be set up for use or used in any building, place of public assemblage or entertainment, unless such apparatus for the projecting of moving pictures shall be inclosed therein in a booth or inclosure constructed of concrete, brick, hollow tile or other approved fireproof material or any approved fireproof framework covered or lined with asbestos board, or with some other approved fire resisting material, and unless such booth shall have been constructed as provided in §210 of this article and the certificate provided in §212 of this article shall have been issued to the owner or lessee of the premises wherein such booth is situated.

§210. Construction of booth; approval of plans and specifications. The booths provided for in §209 of this article shall be constructed according to plans and specifications which shall have been first approved, in a city by the mayor or chief executive officer of the city department

having supervision of the erection of buildings in such city; in a village, by the president of such village; in a town outside the boundaries of a city or village, by the supervisor of such town. Provided, however, that no plans and specifications for the construction of such booths shall be approved by any public official, unless the following requirements are substantially provided for in such plans and specifications.

1. *Dimensions.* Such booths shall be at least six feet in height. If one machine is to be operated in such booth the floor space shall be not less than forty-eight square feet. If more than one machine is to be operated therein, an additional twenty-four square feet shall be provided for each additional machine.

2. *General Specifications.* In case such booth is not constructed of concrete, brick, hollow tile or other approved fireproof material than asbestos, such booth shall be constructed with an angle framework of approved fireproof material, the angles to be not less than one and one-quarter inches by three-sixteenths of an inch thick, the adjacent members being joined firmly with angle plates of metal. The angle members of the framework shall be spaced not more than four feet apart on the sides and not more than three feet apart on the front and back and top of such booth. The sheets of asbestos board or other approved fire-resisting material shall be at least one-quarter of an inch in thickness and shall be securely attached to the framework by means of metal bolts and rivets. The fire-resisting material shall completely cover the sides, tops and all joints of such booth. The floor space occupied by the booth shall be covered with fire-resisting material not less than three-eighths of an inch in thickness. The booth shall be insulated so that it will not conduct electricity to any other portion of the building. There shall be provided for the booth a door not less than two feet wide and five feet ten inches high, consisting of an angle frame of approved fireproof material covered with sheets of approved fireproof material one-quarter of an inch thick, and attached to the framework of the booth by hinges, in such a manner that the door shall be kept closed at all times, when not used for ingress or egress.

The operating windows, one for each machine to be operated therein and one for the operator thereof, shall be no larger than reasonably necessary, to secure the desired service, and shutters of approved fireproof material shall be provided for each window. When the windows are open, the shutters shall be so suspended and arranged that they will automatically close the window openings, upon the operating of some suitable fusible or mechanical releasing device.

Where a booth is so built that it may be constructed to open directly on the outside of the building through a window, such window shall be permitted for the comfort of the operator, but such booth shall not be exempted from the requirement of the installation of a vent flue as hereinafter prescribed. Said booth shall contain an approved fireproof box for the storage of films not on the projecting machine. Films shall not be stored in any other place on the premises; they shall be rewound and repaired either in the booth or in some other fireproof inclosure. The booth in which the picture machine is operated shall be provided with an opening or vent flue in its roof or upper part of its side wall leading to the outdoor air. The vent-flue shall have a minimum cross-sectional area of fifty square inches and shall be fireproof. When the booth is in use there shall be a constant current of air passing outward through said opening or vent flue at the rate of not less than thirty cubic feet per minute.

§211. This article not retroactive under certain conditions. §§209 and 210 of this article shall not be retroactive for any booth approved by the appropriate public authority or official prior to this article taking effect, provided such booth have or be so reconstructed of the same material as to have dimensions as specified in §210 of this article; provided such booth conform to the specification of §210 as regards vent flue, box for storage of films, specifications for windows and doors, and provided such booth be of rigid fireproof material, and be insulated so as not to conduct electricity to any other part of the building and be so separated from any adjacent combustible material as not to communicate fire through intense heat in case of combustion within the booth.

§212. Inspection; certificate for permanent booths. After the construction of such booth shall have been completed, the public officer charged herein with the duty of passing upon the plans and specifications therefor shall within three days after receipt of notice in writing that such booth as been completed cause such booth to be inspected. If the provisions of §§209 and 210 of this article have been complied with, such public officer shall issue to the owner or lessee of the premises wherein such booth is situated a certificate stating that the provisions of §§209 and 210 of this article have been complied with.

§213. Portable booth for temporary exhibitions. Where motion pictures are exhibited daily for not more than one month, or not oftener than three times a week, in educational or religious institutions or bona fide social, scientific, political or athletic clubs, a portable booth may be substituted for the booth required in §§209 and 210 of this article.

Such booth shall have a height of not less than six feet and an area of not less than twenty square feet and shall be constructed of asbestos board, sheet steel of no less gauge than twenty-four; or some other approved fireproof material. Such portable booth shall conform to the specifications of §210 of this article with reference to windows and door, but not with reference to vent flues. The floor of such booth shall be elevated above the permanent support on which it is placed by a space of at least one-half inch, sufficient to allow the passage of air between the floor of the booth and the platform on which the booth rests, and the booth shall be insulated so that it will not conduct electricity to any other portion of the building.

***§214. Exemption and requirements for miniature cinematograph machines.** The above sections, two hundred and nine, two hundred and ten, two hundred and eleven, two hundred and twelve and two hundred and thirteen, referring to permanent and portable booths, shall not apply (a) to any miniature motion picture machine in which the maximum electric current used for the light shall be three hundred and fifty watts. Such miniature machine shall be operated in an approved box of fireproof material constructed with a fusible link or other approved releasing device to close instantaneously and completely in case of combustion within the box. The light in said miniature machine shall be completely inclosed in a metal lantern box covered with an unremovable roof. (b) To the use or operation of any so-called miniature motion picture apparatus which uses only an enclosed incandescent electric lamp and approved acetate of cellulose or slow burning films, and is of such construction that films ordinarily used on full-sized commercial picture apparatus cannot be used therewith.

§215. Inspection; certificate for portable booths and miniature cinematograph machines. Before moving pictures shall be exhibited with a portable booth, under §213 of this article, and before a miniature machine without a booth shall be used as prescribed in §214 of this article, there shall be obtained from the appropriate authority, as defined in §210 of this article, a certificate of approval.

§216. Penalty for violating this article. The violation of any of the provisions of this article shall constitute a misdemeanor. This act shall not apply to cities which have local laws or ordinances now in force which provide for fireproof booths of any kind for moving picture machines or apparatus.

*Amended April 11, 1916.

CHARTER GREATER NEW YORK

CHAPTER 9.

TITLE 2.

Bureau of Buildings.

[*Note—Portions of the text of no special interest to the general public have been omitted.*]

Section 405. Appointment of superintendents; qualifications; jurisdiction; salaries.

406. Duties of superintendents; appointment and removal of subordinates.

407. Continuation and repeal of existing laws; building code.

408. General provisions relative to existing building laws.

409. Rules and regulations.

410. Repealed.

411. Determination of questions.

411A. Certificate of occupancy.

412. Accounts; annual estimates; expenditures.

413. Record of applications.

414. Books, plans, etc., to be delivered to borough presidents.

415. Annual registration of plumbers in Bureau of Buildings.

416. Carrying on business of plumber in New York City without registration, punishable by fine or imprisonment.

§405. **Appointment of Superintendents; qualifications; jurisdiction; salaries.** There shall be in the office of each borough president a bureau to be known as "the bureau of buildings for the borough of _____." The presidents of the Boroughs of Manhattan, The Bronx and Brooklyn shall, each within the borough for which he is elected, appoint a superintendent of buildings for the borough. The presidents of the Boroughs of Queens and Richmond may, whenever appropriation is made therefor by the Board of Aldermen upon the recommendation of the Board of Estimate and Apportionment, each within the borough for which he is elected, in like manner appoint a superintendent of buildings for the borough. Every superintendent of buildings so appointed shall be a competent architect or

builder of at least ten years' experience. The president of a borough may, whenever in his judgment the public interests shall require, remove the superintendent of buildings of his borough. Every such superintendent shall hold office until his successor is appointed and has qualified. * * * L. 1897, ch. 378, §644.

***§406. Duties of superintendent; appointment and removal of subordinates.** Each superintendent of buildings except as otherwise provided in this act, shall, within the borough in which he has jurisdiction, have exclusive jurisdiction and charge, subject to and in accordance with the general rules and regulations to be established by the board of standards and appeals, of the construction, alteration, structural changes in and removal of buildings and other structures erected or to be erected within such borough, including sidewalk elevators, vaults, the covering thereof and entrances thereto. But, such jurisdiction shall not extend to water front property owned by the City of New York, bridges, tunnels, subways and structures appurtenant thereto nor be held to affect the powers or duties of the tenement house department. Each superintendent of buildings shall have exclusive jurisdiction to require that the construction and alteration of all buildings hereafter constructed or altered shall conform to such provisions of the labor law and other laws as may be applicable thereto and shall also have power to enforce in his borough the laws relating to the protection of persons employed in the construction, alteration, or removal of buildings or structures, and to enforce the provisions of such ordinances as are or may be established by the board of aldermen, relating to the construction, alteration and removal of buildings or the structures erected or to be erected within such borough. Each superintendent of buildings within the limits of his appropriation shall have the power to appoint subordinate officers, as follows: such chief inspectors of buildings, and such inspectors of buildings, engineers, clerks, messengers, assistants and other subordinates as in his judgment may be necessary and proper to carry out and enforce such rules and regulations and ordinances and the provisions of said laws and of this chapter within the borough under his jurisdiction. The chief inspector of buildings shall be a competent architect, engineer or builder of at least ten years' practice. The inspectors shall be competent men, either architects, engineers, masons, carpenters, plumbers, plasterers or iron workers, who shall have served at least five years as such. It shall not be lawful for any officer or employee in the building bureau of any borough to be

*Amended May 10, 1916.

engaged in conducting or carrying on business as an architect, civil engineer, structural engineer, sanitary engineer, carpenter, plumber, iron worker, mason or builder, or any other profession or business concerned with the construction, alteration or equipment of buildings, while holding office in the bureau, or to be engaged in the manufacture or sale of automatic sprinklers, fire extinguishing apparatus, fire protection devices, fire prevention devices, or devices relating to means or adequacy of exit from buildings or of articles entering into the construction or alteration of buildings, or act as agent for any person engaged in the manufacture or sale of such articles, or own stock in any corporation engaged in the manufacture or sale of such articles. Each superintendent of buildings shall have power to designate in writing one of the inspectors so appointed by him to act on any survey authorized by law, or to perform such other duties as the said superintendent may direct. Each superintendent of buildings may designate a chief inspector of buildings, who, during the absence or inability of such superintendent shall possess all the powers and perform all his duties so far as they relate to buildings.

Each superintendent of buildings shall have power to punish any employee, for neglect of duty, or omission to properly perform his duty, for violation of rules, or neglect or disobedience of orders, or incapacity, or absence without leave, by forfeiting and withholding pay for a specified time, or by suspension from duty with or without pay not exceeding thirty days, or subject to the requirements of the civil service law remove or dismiss any inspector of buildings or other subordinate appointed by him or by any predecessor in office from the service of the bureau at any time, *provided, however, that no inspector of buildings or other subordinate in any of the bureaus of buildings of the several boroughs of the city of New York, holding a position in the classified civil service subject to competitive examination, shall be removed until he has been allowed an opportunity of making an explanation and in every case of a removal or a dismissal the true grounds thereof shall be forthwith entered upon the records of the office of the borough president to which is attached the bureau of buildings from which said inspector of buildings or other subordinate shall be removed or dismissed and a copy filed with the municipal civil service commission. In case of removal or dismissal, a statement, showing the reason therefor, shall be filed in the bureau of buildings from which such inspector of buildings or other subordinate is dismissed.* Any officer or employee of or in the bureau of buildings of any borough, or police officer thereto detailed, who shall ask, solicit or accept or receive any money or other compensation for enforcing or for modifying or changing any order or requirement of said bureau shall be guilty of a felony. (Amended May 11, 1918.)

§407. Continuation and repeal of existing laws; building code. The Board of Aldermen is authorized by ordinance to regulate and restrict the height of buildings to be hereafter erected in the city. * * * The building code which shall be in force in The City of New York on the first day of January, nineteen hundred and two, and all then existing provisions of law fixing the penalties for violation of said code, and all then existing laws affecting or relating to the construction, alteration or removal of buildings or other structures within The City of New York are hereby declared to be binding and in force in The City of New York, and shall continue to be so binding and in force except as the same may from time to time be revised, altered, amended or repealed as herein provided. No right or remedy of any character shall be lost or impaired or affected by reason of this chapter. This chapter shall not affect or impair any act done or right accruing, accrued or acquired or penalty, forfeiture or punishment incurred prior to the time when this act takes effect or by virtue of any law repealed or modified by this chapter, but the same may be asserted, enforced, prosecuted or inflicted as fully and to the same extent as if this act had not been passed or said law had not been repealed or modified. The board of aldermen shall have power from time to time to amend said building code and said laws and to provide therein for all matters concerning, affecting or relating to the construction, alteration or removal of buildings or structures erected or to be erected in The City of New York, and for the purpose of preparing or amending such code to appoint and employ a commission of experts. The said building code which is in force May first, nineteen hundred and four, shall constitute a chapter of the code of ordinances of The City of New York. (As amended by L. 1904, ch. 628, §2.) L. 1897, ch. 378, §647. Compare L. 1904, ch. 602, also amending this section.

§408. General provisions relative to existing building laws. The superintendent of buildings appointed by the president of the Borough of Manhattan shall within such borough in addition to the powers, rights and duties expressly conferred or imposed upon him by this act, possess and exercise all the powers, rights and duties, and shall be subject to all the obligations heretofore vested in, conferred upon or required of the board of buildings of The City of New York and of the commissioner of buildings appointed for the Boroughs of Manhattan and The Bronx so far as they relate to the Borough of Manhattan and except in so far as the same are inconsistent with or are modified by this act. * * * L. 1897, ch. 378, §646.

***§409. Rules and Regulations.** Each president of a borough shall have power to establish administrative rules and regulations for the conduct of the business and the regulation of the employees of the bureau of buildings of his borough. The superintendent of buildings of each borough shall enforce such administrative rules and regulations and administer the building bureau in his borough.

†§411. Determination of questions. Each superintendent of buildings shall have power and it shall be his duty, subject to the provisions of law and the ordinances of the board of aldermen, and the general rules and regulations established according to law to pass upon any question relative to the mode, manner of construction or materials to be used in the erection or alteration of any building or other structure erected or to be erected within the borough under his jurisdiction which is included within the provisions of this chapter, or of any existing law applicable to such borough relating to the construction, alteration or removal of buildings or other structures, and to require that such mode, manner of construction of materials shall conform to the true intent and meaning of the several provisions of this chapter and of the laws and ordinances aforesaid, and the rules and regulations applicable thereto, but, where there are practical difficulties in the way of carrying out the strict letter of the law, the spirit of the law shall be observed and public safety secured and substantial justice done, provided that variations from the strict letter of the law or the building code shall be approved by the borough president. But a superintendent of buildings shall not have power to vary from or proceed contrary to the labor law, except as it may be modified by the board of standards and appeals as provided in this act, or contrary to a rule or decision of the board of standards and appeals or boards of appeals, or contrary to an order of the fire commissioner, except as such an order may be modified by the board of appeals, nor of the tenement house commissioner. Whenever a superintendent of buildings to whom such question has been submitted shall reject or refuse to approve the mode, manner of construction or materials proposed to be followed or used in the erection or alteration of any building or structure, or when it is claimed that the rules and regulations of the board of standards and appeals or the provisions of law or of said ordinances do not apply, or that an equally good and more desirable form of construction can be employed in any specific case, the owner of such building or structure, or his duly authorized agent, may ap-

*Section four hundred and ten of the Greater New York charter is hereby repealed.

†Amended May 10, 1916.

peal from the decision of such superintendent to the board of appeals.

§5. The Greater New York charter is hereby amended by adding thereto a new section to be inserted after section four hundred and eleven and to be known as section four hundred and eleven-a, and to read as follows:

*§411-a. **Certificate of occupancy.** 1. *New buildings.* No building hereafter erected shall be occupied or used, in whole or in part, for any purpose whatever until a certificate of occupancy therefor in such form as may be authorized by the building code and the board of standards and appeals, certifying that such building conforms to the requirements of all laws, ordinances and rules and regulations of the board of standards and appeals applicable thereto shall have been issued by the superintendent of buildings of the borough in which such building is situated.

2. *Buildings hereafter altered.* No building hereafter altered or converted from one class to another class shall be occupied or used in whole or in part for any purpose whatever, in case such building was vacant during the progress of the work, or in case such alteration did not necessitate the vacation of the building during the progress of the work, the occupancy or use of any such building shall not continue more than thirty days after the completion of such alteration, unless a certificate of occupancy shall have been issued by the superintendent of buildings of the borough in which such building is situated in such form as may be authorized by the building code.

3. If there be in any building hereafter erected, altered or converted from one class to another class, any auxiliary fire extinguishing appliances, stand pipes or other appliances required or intended to be used for extinguishing fires, the certificate of occupancy issued for any such building as provided in subdivisions one or two of this section shall be not deemed complete, unless the installation of the appliances mentioned in this subdivision has been inspected by the fire department, and approved in writing, either in a separate certificate or by endorsement upon the certificate of occupancy.

4. A certificate of occupancy issued as provided in subdivisions one and two of this section shall not be binding on the fire commissioner with respect to any building which shall be or be intended to be used for the storage or use of chemicals, combustibles or explosives or for any trade, purpose or occupation which the board of standards and appeals may classify by general rule as being hazardous.

*Amended May 10, 1916.

5. Except as provided in subdivision four, every certificate of occupancy issued, as provided in subdivision one or subdivision two of this section, and approved, if required to be approved under subdivision three, shall until set aside or vacated by the board of appeals, be and remain binding and conclusive upon all officers, departments, commissions, boards and bureaus of the city, except upon the tenement house department, and shall be binding and conclusive upon the department of labor of the State of New York, as to all matters therein set forth, and no order, direction or requirement at variance therewith shall be made or issued by any officer, department, board or bureau of the said city, except the tenement house department, nor by the department of labor of the State of New York, or any commission, board, officer or member thereof.

6. *Temporary certificates.* The superintendent of buildings may on request of the owner or his authorized representative, issue a temporary certificate of occupancy for any part of a building or structure, provided that such temporary occupancy or use would not in any way jeopardize life or property. But no such temporary certificate shall be issued in the case of a tenement house unless and until a certificate is issued by the tenement house commissioner as provided in section thirteen hundred and forty-four.

The word class as used in this section refers to the classification of buildings in the building code.

§412. **Accounts; annual estimates; expenditures.**
* * * L. 1897, ch. 378, §651.

§413. **Record of applications.** Each superintendent of buildings shall keep a record of all applications presented to him concerning, affecting or relating to the construction, alteration or removal of buildings or other structures. Such record shall include the date of the filing of each such application; the name and address of the applicant; the name and address of the owner of the land on which the structure mentioned in such application is situated; the names and addresses of the architect and builder employed thereon; a designation of the premises by street number, or otherwise, sufficient to identify the same; a statement of the nature and proposed use of such structure; and a brief statement of the nature of the application, together with a memorandum of the decision of the superintendent upon such application and the date of the rendition of such decision. The books containing such records are hereby declared to be public records, and shall be open to inspection at all reasonable times. L. 1897, ch 378, §652.

§414. **Books, plans, etc., to be delivered to borough presidents.** * * *

§415. **Annual registration of plumbers in bureau of buildings.** (a) Once in each year every employing or master plumber carrying on his trade, business or calling in the City of New York shall register his name and address at the office of the bureau of buildings in the borough of the said city in which he performs work, under such rules and regulations as the said bureau prescribes, and thereupon he shall be entitled to receive a certificate of such registration from said bureau, if, at the time of applying for such registration he holds a certificate from the examining board of plumbers of said city and is a citizen of the United States. Each person obtaining such certificate from the examining board of plumbers after the date fixed by the bureau of buildings for registration, may, however, register with the bureau of buildings within thirty days after the issuance of such certificate. Such registration may be cancelled by the superintendent of buildings for a violation of the rules and regulations for plumbing or drainage of such city duly adopted, or in force pursuant to the provisions of this section, or whenever the person so registered ceases to hold a certificate from the examining board of plumbers or to be actually engaged in the business of master or employing plumber, after a hearing had before said superintendent, upon prior notice of not less than ten days.

(b) The plumbing and drainage of all buildings, both public and private in the City of New York, shall conform to the rules and regulations lawfully adopted by the superintendents of buildings of the various boroughs. Said rules and regulations hereafter adopted, and any changes thereof, shall be published in the CITY RECORD on eight successive Mondays before they shall become operative. Suitable drawings and descriptions of plumbing and drainage shall in all cases be submitted and placed on file in the bureau of buildings of the borough in which the work is to be performed, and the same shall not be commenced or proceeded with until the said drawings and descriptions shall have been so filed and approved by the superintendent of buildings. Repairs and alterations of plumbing or drainage may be made without the filing and approval of drawings and descriptions in the bureau of buildings, where such repairs and alterations do not include the use of new vertical or horizontal lines of soil, waste, vent or leader pipes. Notice of such repairs or alterations, however, shall be given to the said bureau before they are commenced, in accordance with the rules and regulations of said bureau. The superintendents of buildings shall have power to require sworn statements from persons registering under the provisions of this act before granting any permit to proceed with the work.

(c) The bureau of buildings in each borough is hereby charged with the enforcement of the provisions of this sec-

tion and the next succeeding section, and in addition to such officers or employees as are now provided by law, the superintendent of buildings may appoint inspectors of plumbing, when appropriation for the salaries of the same shall have been duly made. Inspectors of plumbing shall, under the direction of the superintendent of buildings, in addition to their other duties, ascertain whether persons performing plumbing work in the City of New York are registered, as in this section provided, and shall file written reports in the bureau as to their investigations. (Added by L. 1913, ch. 754.)

§416. Carrying on business of plumber in New York City without registration punishable by fine or imprisonment. (a) It shall not be lawful for any person or co-partnership to engage in, perform, or carry on the trade, business or calling of employing or master plumber in the city of New York unless such person or each member of such co-partnership shall have been registered as provided in the foregoing section.

(b) It shall be unlawful for any person or co-partnership in the city of New York, unless said person or co-partnership shall have complied with the requirements of the preceding paragraph, to hold him or themselves out to the public as a master or employing plumber by the use of the word "plumber" or "plumbing" or words of similar import or meaning on signs, cards, stationery or in any other manner whatsoever.

(c) No person registered as provided in the preceding section, or who holds a certificate from the examining board of plumbers, shall, for the benefit of any person engaged in the plumbing business who is not so registered, apply for, receive or make use of, any permit granted to him by reason of being so registered, or holding such certificate from the examining board of plumbers.

(d) Any person violating any of the provisions of this section or the preceding section shall be fined for such offense in a sum not exceeding two hundred and fifty dollars or by imprisonment for a term not exceeding three months, or by both, and in addition shall forfeit any certificate of the examining board of plumbers or any certificate of registration he may hold at the time of such conviction.

(e) Nothing in this section or the preceding section shall abrogate or impair any of the powers of the health department, the tenement house department, the board of aldermen, and the board of estimate and apportionment of the city of New York, with respect to the regulation of plumbing and drainage in the said city. (Added by L. 1913, ch. 754.)

*The Greater New York charter is hereby amended by adding thereto a new chapter, to be inserted after chapter fourteen and to be known as chapter fourteen-a and to read as follows:

CHAPTER XIV-A.

Board of Standards and Appeals; Penalties for Violation of Orders, et cetera, of Board, of Superintendent of Buildings and of Fire Commissioner.

§718. **Board of Standards and Appeals.** 1. *Constitution and appointment.* The board of standards and appeals is hereby continued as hereinafter provided. The board of appeals is hereby abolished and the powers and duties heretofore vested therein are hereby vested in the board of standards and appeals as herein constituted. The words "the board" when used in this chapter refer to said board of standards and appeals. The board shall consist of four members to be appointed by the mayor who are hereinafter referred to as the appointed members, and an officer of the uniformed force of the fire department above the grade of battalion chief, to be designated by the fire commissioner who shall serve without additional compensation. In the event of the absence or disability of the member designated by the fire commissioner, he may designate another officer of the uniformed force of the fire department above the grade of battalion chief to act during the absence or disability. At all times there shall be among the appointed members of the board persons, other than the chairman, qualified as follows: One member who shall have had prior to his appointment at least ten years' experience in structural work as a civil engineer, and one member who shall have had prior to his appointment at least ten years' experience as an employing building contractor. The chairman of the board, who shall be so designated in his appointment, shall have had not less than fifteen years' experience as an architect or structural engineer; and he shall not be engaged in any other occupation, profession or employment. The three other appointed members shall be called commissioners of standards and appeals; they shall attend all public hearings of the board and shall give such time to executive meetings and inspections as may be determined by the chairman and the board. Each of the appointed members shall receive such compensation as shall be fixed by the board of aldermen upon the recommendation of the board of estimate and apportionment. The chairman and other appointed members of the board shall be appointed for terms of six years by the mayor, who shall also appoint a secretary of the board. The board shall appoint a chief clerk and such other subordinates as

*Amended May 10, 1916.

may be needed, who shall receive such compensation as may be provided pursuant to law.

2. *Removal and filling vacancies.* The mayor shall have power to remove any appointed member of the board, and the secretary of the board, and to fill vacancies occurring by such removal or other cause. Such vacancies shall be filled for the unexpired term of the member whose place has become vacant. In the event of the absence or illness of an appointed member the mayor shall have the power to appoint another person to act in the place of such absent or ill member at any meeting or meetings during such period of absence or illness.

3. *Meetings.* Meetings of the board shall be held at the call of the chairman and at such other times as such board may determine. Such chairman, or in his absence the acting chairman, may administer oaths and compel the attendance of witnesses. All hearings before said board shall be open to the public. The board shall keep minutes of its proceedings, showing the vote of each member upon every question, or if absent or failing to vote, indicating such fact, and shall also keep records of its examinations and other official action.

4. *Bulletin; filing and publication of decision.* Every rule, regulation, every amendment or repeal thereof, and every order, requirement, decision or determination of the board shall immediately be filed in the office of the board and shall be a public record. The board shall print and publish monthly or oftener at its option, a bulletin in which it shall publish every rule, regulation, every amendment or repeal thereof made by the board, and every order, requirement, decision and determination of the board, and the reasons therefor whenever it shall deem it practical to do so, and such other matters, including indices and digests, as the board may deem it advisable to publish.

§2. Section seven hundred and eighteen-b of said charter, as added by chapter five hundred and three of the laws of nineteen hundred and sixteen, is hereby amended and superseded so as to read as follows:

§718-b. **Rules and regulations.** 1. At least four affirmative votes shall be necessary to the adoption, repeal or amendment of any rule or regulation by the board. At least ten days' notice of intention to adopt, amend or repeal any rule or regulation shall be given by publication in the bulletin of the board, and a public hearing shall be given before any action is taken thereon. The adopted rules and regulations and amendments and changes thereof, shall take effect not less than twenty days after the publication thereof in the bulletin of the board.

2. All rules and regulations heretofore lawfully adopted by the board as heretofore instituted, or by a president of a borough, a superintendent of buildings, the fire commissioner or any other officer, department, board or bureau of

the city or the labor department of the state or the industrial commission thereof relating to any matter within the jurisdiction of the board, and which shall be in force when this section as amended shall take effect, shall continue in force until amended, repealed or superseded, and be enforced as rules and regulations of the board.

§3. Section seven hundred and eighteen-d of said charter, as added by chapter five hundred and three of the laws of nineteen hundred and sixteen, and amended by chapter six hundred and one of the laws of nineteen hundred and seventeen, is hereby amended and superseded so as to read as follows:

§718-d. **Hearings and Appeals.** The board of standards and appeals shall hear and decide appeals from and review any rule, regulation, amendment or repeal thereof, order, requirement, decision or determination of a superintendent of buildings made under the authority of title two of chapter nine of this act or of any ordinance or of the fire commissioner under the authority of title three of chapter fifteen of this act or of any ordinance, or of the labor law. Said board shall also hear and decide all matters referred to it or upon which it is required to pass under any resolution of the board of estimate and apportionment adopted pursuant to sections two hundred and forty-two-a and two hundred and forty-two-b of the chapter. No member of the board shall pass upon any question in which he or any corporation in which he is a stockholder or security holder is interested.

Hearings on appeals shall be before at least four members of the board, and the concurring vote of four members of the board shall be necessary to reverse or modify any order, regulation, decision or determination, or to a decision in favor of an applicant upon any matter upon which the board is required to pass under any law, ordinance or resolution, or to effect any variation in such law, ordinance or resolution.

§4. Section seven hundred and eighteen-e of said charter, as added by chapter five hundred and three of the laws of nineteen hundred and sixteen, is hereby amended and superseded so as to read as follows:

§718-e. **Inspections.** Whenever the board shall deem it necessary that an inspection shall be made of any building, structure or vessel which is the subject of an appeal from an order, requirement, decision or determination of the fire commissioner, the chairman of the board and not less than two members of the board designated by the chairman shall visit and inspect such building, structure or vessel, and shall report their findings to the board in writing.

§5. Section seven hundred and nineteen of said charter, as added by chapter five hundred and three of the laws of nineteen hundred and sixteen, is hereby amended and superseded so as to read as follows:

§719. **Appeals.** 1. *What appealable.* An appeal may be taken to the board of standards and appeals from any order, requirement, decision or determination made by any superintendent of buildings under the authority of title two of chapter nine of this act or of any ordinance (except an order requiring an unsafe building, staging or structure to be made safe, and except an order punishing, removing or dismissing an employee, inspector or other subordinate), or made by the fire commissioner under the authority of title three of chapter fifteen of this act or of any ordinance, and from any rule, regulation, amendment or repeal thereof relating to the construction, alteration, structural changes in, equipment, occupancy or use of any building or structure, or vaults and sidewalks appurtenant thereto.

2. *Who may appeal.* Such appeal may be taken by any person aggrieved or by any officer, department, board or bureau of the city.

3. *Appeal how taken.* Such appeal may be taken within such time as shall be prescribed by the board by general rules by filing with the officer from whom the appeal is taken and with the board of standards and appeals of a notice of appeal, specifying the grounds thereof. The officer from whom the appeal is taken shall forthwith transmit to the board all the papers constituting the record upon which the action appealed from was taken.

4. *Stay.* An appeal stays all proceedings in furtherance of the action appealed from, unless the officer from whom the appeal is taken certifies to the board after the notice of appeal shall have been filed with him that by reason of facts stated in the certificate, a stay would, in his opinion, cause imminent peril to life or property, in which case proceedings shall not be stayed otherwise than by a restraining order which may be granted by the board or by the supreme court, on application, on notice to the officer from whom the appeal is taken and on due cause shown.

5. *Hearing of and decision upon appeal.* The board shall fix a reasonable time for the hearing of the appeal and give due notice thereof to the parties, and decide the same within a reasonable time. Upon the hearing, any party may appear in person or by agent or by attorney. The board may reverse or affirm, wholly or partly, or may modify the order, requirement, decision or determination appealed from and shall make such order, requirement, decision or determination as in its opinion ought to be made in the premises, and to that end shall have all the powers of the officer from whom the appeal is taken. Where there are practical difficulties or unnecessary hardship in the way of carrying out the strict letter of the law, the board shall have power in passing upon appeals, to vary or modify any rule or regulation or the provisions of any existing law or ordinance relating to the construction, use, structural changes in, equipment, alteration or removal of buildings or structures, or vaults and sidewalks appurtenant thereto, so

that the spirit of the law shall be observed, public safety secured and substantial justice done. The board shall not vary or modify the tenement house law nor any order, regulation or ruling of the tenement house commissioner, except on an appeal to the board from any such order, regulation or ruling of the tenement house commissioner for the enforcement of the building zone resolution of the board of estimate and apportionment. The decision shall be in writing and shall be filed in the office of the board and promptly published in the bulletin of the board. Each decision shall so far as is practicable be in the form of a general statement or resolution which shall be applicable to cases similar to or falling within the principles passed upon in such decision.

6. *Review by board on its own motion.* Any rule, regulation, amendment or repeal thereof and any order, requirement, decision or determination from which an appeal may be taken to the board under the provisions of this section, may be reviewed by the board, upon motion of any member thereof, but no such review of a decision upon an appeal shall prejudice the rights of any person who has in good faith acted thereon before it is reversed or modified. The provisions of this chapter relating to appeals to the board shall be applicable to such review.

§6. Section seven hundred and nineteen-a of said charter, as added by chapter five hundred and three of the laws of nineteen hundred and sixteen, is hereby amended and superseded so as to read as follows:

§719-a. **Certiorari to review decision of board.** 1. *Petition.* Any person or persons, jointly or severally aggrieved by any decision of the board of standards and appeals upon appeal or review had under section seven hundred and nineteen, or any officer, department, board or bureau of the city, or the industrial commission of the labor department of the state, may present to the supreme court a petition, duly verified, setting forth that such decision is illegal, in whole or in part, specifying the grounds of the illegality. Such petition must be presented to a justice of the supreme court or at a special term of the supreme court within thirty days after the filing of the decision in the office of the board, or its publication in the bulletin.

2. *Writ of certiorari.* Upon the presentation of such petition, the justice or court may allow a writ of certiorari directed to the board of standards and appeals to review such decision of the board of appeals and shall prescribe therein the time within which a return thereto must be made and served upon the relator's attorney, which shall not be less than ten days and may be extended by the court or a justice thereof. Such writ shall be returnable to a special term of the supreme court of the judicial district in which the property affected, or a portion thereof, is situated. The allowance of the writ shall not stay proceedings

upon the decision appealed from, but the court may, on application, on notice to the board and on due cause shown, grant a restraining order.

3. *Return to writ.* The board of standards and appeals shall not be required to return the original papers acted upon by it, but it shall be sufficient to return certified or sworn copies thereof or of such portions thereof as may be called for by such writ. The return must concisely set forth such other facts as may be pertinent and material to show the grounds of the decision appealed from and must be verified.

4. *Proceedings upon return.* If, upon the hearing, it shall appear to the court that testimony is necessary for the proper disposition of the matter, it may take evidence or appoint a referee to take such evidence as it may direct and report the same to the court with his findings of fact and conclusions of law, which shall constitute a part of the proceedings upon which the determination of the court shall be made. The court may reverse or affirm, wholly or partly, or may modify the decision brought up for review.

5. *Costs.* Costs shall not be allowed against the board, unless it shall appear to the court that it acted with gross negligence or in bad faith or with malice in making the decision appealed from.

6. *Preferences.* All issues in any proceeding under this section shall have preference over all other civil actions and proceedings.

§7. Section seven hundred and nineteen-b of said charter, as added by chapter five hundred and three of the laws of nineteen hundred and sixteen, is hereby amended and superseded so as to read as follows:

§719-b. **Penalty for non-compliance with orders, et cetera, of board, of superintendents of buildings and of fire commissioner.** Any person who shall knowingly violate or fail to comply with any lawful order or requirement of the board of standards and appeals made under the authority of this chapter or of a superintendent of buildings made under the authority of title two of chapter nine of this act or of the fire commissioner made under the authority of title three of chapter fifteen of this act, shall be guilty of a misdemeanor; and shall in addition thereto, and in addition to all other liabilities and penalties imposed by law, ordinances, rules and regulations, forfeit and pay for each and every such violation and non-compliance respectively, a penalty in the sum of not more than two hundred and fifty dollars, as may be fixed by the court awarding judgment therefor. An action may be brought for the recovery of any such penalty or penalties in any municipal court or court of record in said city in the name of the city.

§8. The terms of office of all members of the board of standards and appeals as constituted prior to the taking effect of this local law shall terminate when this local law

takes effect, at which time the membership of the board shall be constituted by appointment and designation as hereinbefore provided and all books, papers, records and property in the possession of the board or of the board of appeals as heretofore constituted or the members thereof or under their control, shall be and remain in the possession of the board of standards and appeals as constituted under this local law.

§9. The chief clerk and other employees of the board of standards and appeals as heretofore constituted shall be under the jurisdiction of the board of standards and appeals as herein constituted, with the titles, salaries and duties attached to their positions, subject, however, to the power of the board of standards and appeals to abolish unnecessary positions and to the power of the board of aldermen upon the recommendation of the board of estimate and apportionment to fix salaries.

§10. No right or remedy shall be lost or impaired by reason of this local law. This local law shall not affect or impair any act done or right accruing or accrued, or penalty, forfeiture or punishment incurred when this local law takes effect, but the same may be asserted, enforced and prosecuted to the same extent and as fully as it might have been if this local law had not been enacted, and all proceedings, actions, suits or prosecutions pending when this local law takes effect may be prosecuted and defended to finality as if this local law had not been enacted, and may be continued without change of name or title.

§11. Wherever the words, the board of standards and appeals, or the board of appeals, are used in the Greater New York Charter or in any other law, ordinance or resolution, heretofore enacted or adopted, they shall be deemed to mean the board of standards and appeals, as constituted under this local law.

§12. This local law shall take effect immediately.

*Section seven hundred and seventy-four of the Greater New York charter, as amended by chapter four hundred and fifty-nine of the laws of nineteen hundred and fourteen, is hereby amended so as to read as follows:

§774. **Fire commissioner, duties of.** The commissioner is empowered to enforce all laws and ordinances and the rules and regulations of the board of standards and appeals in respect of

1. The prevention of fires and danger to and loss of life and property therefrom;
2. The storage, sale, transportation or use of combustibles, chemicals and explosives;

*Amended May 19, 1916.

3. The installation and maintenance of automatic or other fire alarm systems and fire extinguishing equipment;

4. The means and adequacy of exit, in case of fire, as provided in the labor law, the building code and the rules and regulations of the board of standards and appeals, in and from all buildings, structures, enclosures, vessels, places and premises in which numbers of persons work, live or congregate from time to time for any purpose except tenement houses;

5. The investigation of the cause, circumstances and origin of fires and the suppression of arson;

6. The use and occupancy of buildings and other structures except tenement houses.

The fire commissioner shall not vary from, proceed or issue any order contrary to the building code, a rule, regulation or decision of the board of standards and appeals, or of the board of appeals.

The powers conferred upon the fire commissioner by this section are exclusive of the department of labor, and such department shall not exercise any of such powers in the city of New York.

The powers conferred by this section shall not, however, extend to the enforcement of any provision of the sanitary code or the regulations of the board of health, nor interfere in any manner with the powers or duties of the department of health or of the health commissioner.

§8. Subdivisions two and three of section seven hundred and seventy-five of the Greater New York charter, as amended by chapter four hundred and fifty-nine of the laws of nineteen hundred and fourteen, are hereby amended so as to read as follows:

2. Order, in writing, the remedying of any condition found to exist in, on or about any building, structure, enclosure, vessel, place or premises, except tenement houses, in violation of any law or ordinance or rule or regulation of the board of standards and appeals in respect to fires or to the prevention of fires or in respect to any of the matters mentioned in section seven hundred and seventy-four, except as otherwise provided in this act and except the tenement house law;

3. Order, in writing, the installation, as prescribed by any law or ordinance or by the rules and regulations of the board of standards and appeals, in any building, structure, enclosure, vessel, place or premises, of automatic or other fire alarm system or fire extinguishing equipment and the maintenance and repair thereof; or the construction, as prescribed by any law or ordinance or rule or regulation of the

board of standards and appeals, of adequate and safe means of exit from all buildings, structures, enclosures, vessels, places and premises, except tenement houses;

§9. Section seven hundred and seventy-five of the Greater New York charter, as amended by chapter four hundred and fifty-nine of the laws of nineteen hundred and fourteen, is hereby further amended by inserting therein after subdivision six thereof, a new subdivision to be subdivision seven, and to read as follows:

7. The plans for all alterations and structural changes in and for the installation of fire extinguishing equipment to be made or installed in buildings or other structures pursuant to orders of the fire commissioner shall be filed in the office of the superintendent of buildings of the borough in which such building or structure is situated.

§10. The Greater New York charter is hereby amended by adding a new section, to be inserted after section seven hundred and seventy-five and to be known as section seven hundred and seventy-five-a, and to read as follows:

§775-a. **Orders, et cetera, of fire commissioner.** Every rule, regulation, amendment or repeal thereof, and every order, requirement, decision or determination of the fire commissioner authorized by this title, shall be in writing. He shall deliver a copy of every order which involves the alteration of any building or structure to the superintendent of buildings of the borough in which such building or structure is located. Each superintendent of buildings shall notify the fire commissioner when plans are filed to comply with any order of the fire commissioner, and when the work to be done pursuant to any such order is completed. In any action or proceeding founded upon a claim by the fire commissioner that a lawful order made by him has not been complied with, the certificate in writing of the superintendent of buildings of the borough in which the building or structure is situated, shall be presumptive evidence of any matter stated therein concerning the filing of plans to comply with an order of the fire commissioner, the sufficiency of such plans to so comply and the completion or failure to complete the work required to be done pursuant to such an order.

§11. Section seven hundred and seventy-five-a of the Greater New York charter is hereby renumbered seven hundred and seventy-five-b.

§12. Section seven hundred and seventy-seven, as amended by chapter six hundred and ninety-five of the laws of nineteen hundred and thirteen, section seven hundred and seventy-seven-a, as amended by chapter four hundred and fifty-eight of the laws of nineteen hundred and twelve and

section seven hundred and seventy-seven-b of the Greater New York charter, as amended by chapter eight hundred and ninety-nine of the laws of nineteen hundred and eleven are hereby repealed.

§13. Sections seven hundred and seventy-eight and seven hundred and seventy-eight-a of the Greater New York charter, as amended by chapter eight hundred and ninety-nine of the laws of nineteen hundred and eleven, are hereby amended so as to read as follows:

§778. **Application for order to remove violations and to vacate buildings.** In case any order to remedy a condition eminently perilous to life or property issued by the commissioner or the department is not complied with, or the commissioner certifies in writing that an emergency exists requiring such action, he may order any building or structure or part thereof to be vacated. Such order shall be addressed and served in the same manner as is prescribed in section seven hundred and seventy-five for the service of orders. Whenever any order to vacate served as aforesaid shall not have been complied with, within the time designated therein, the commissioner, in addition to or in lieu of any other remedy or power, may apply to the supreme court, at a special term thereof, without notice, for an order directing the said commissioner to vacate such building or premises, or so much thereof as said commissioner may deem necessary, and prohibiting and enjoining all persons from using or occupying the same for any purpose until such measures are taken as may be required by such order.

§778-a. **Transmitting notice to owners.** In case any order or notice mentioned in or given pursuant to sections seven hundred and seventy-five or seven hundred and seventy-eight shall be served upon or given to any lessee or person in possession or charge of the building, structure, enclosure, vessel, place or premises therein described it shall be the duty of such person to give immediately notice to the owner or agent of said building, structure, enclosure, vessel, place or premises named in the notice, if the same shall be known to such person personally, if such owner or agent shall be within the limits of the City of New York, and his residence known to such person; and if such owner or agent be not within said city, then by depositing a copy of such order or notice in any postoffice in the City of New York, properly enclosed and addressed to such owner or agent, at his then place of residence, if known, and with the postage prepaid. In case any lessee or person in possession or charge as aforesaid shall neglect to give such notice as herein provided, he shall be personally liable to the owner or owners of said building or premises for all damages he or they shall sustain by reason of such neglect.

§14. Section thirteen hundred and forty-one of the Greater New York charter is hereby amended so as to read as follows:

§1341. **Transfer of powers of other departments.** Such rights, powers and duties as are now possessed by the fire department and police department of the city of New York with respect to the prevention of incumbrance or obstruction of fire-escapes on tenement houses are hereby transferred to and conferred upon the tenement house department. All rights, powers and duties now possessed by the bureaus of buildings and the department of health of the city of New York with respect to the light and ventilation of tenement houses, and with respect to the equipment of completed tenement houses with fire-escapes, are transferred to and conferred upon the tenement house department. All rights, powers and duties now possessed by the department of health of the City of New York with respect to the construction of and structural changes in bakeries and confectioneries in tenement houses are transferred to and conferred upon the tenement house department.

Nothing in this act contained shall be construed to abridge, restrict or diminish the jurisdiction or powers of the tenement house department as they existed prior to January first, nineteen hundred and sixteen.

§15. No right or remedy of any character shall be lost or impaired or affected by reason of this act.

The provisions of this act shall not affect or impair any act done or right accruing, accrued or acquired or liability, penalty, forfeiture or punishment incurred prior to the time this act takes effect, but the same may be asserted, enforced, prosecuted or inflicted as fully and to the same extent as if this act had not been enacted.

All actions and proceedings, civil or criminal, commenced under or by virtue of statute, ordinance, rule or regulation creating and conferring powers or imposing duties transferred by this act or for the enforcement of statutes, ordinances, rules and regulations in relation thereto, and pending immediately prior to the taking effect of this act, may be prosecuted and defended to final effect by and in the name of the city of New York. Any investigations or examinations undertaken, commenced or instituted by a department, commission, board, body or officer of the city, or the state labor department, in relation to a matter or subject jurisdiction whereof is by this act transferred to or conferred on another department, commission, board, body or officer may be conducted or continued to a final determination as heretofore provided by law. An order of a city department, commission, board, body or officer in the state labor department, in relation to a matter or subject,

jurisdiction whereof is conferred by this title on a department, commission, board, body or officer of the City of New York is continued in full force and effect, notwithstanding the enactment of this act and may be enforced by such department, commission, board, body or officer of said city; but the procedure for such enforcement shall be pursuant to the provisions of *this act.

Any action heretofore taken by the department of labor of the state whereby after alterations or structural changes were made in any building in the city, such building was accepted as complying with the provisions of the labor law or of the industrial code, shall be accepted, and be binding upon, the fire commissioner, the superintendents of buildings, the board of standards and appeals and the board of appeals.

§16. The board of estimate and apportionment may transfer employees and officers of any state or city department affected by this act to any other department in such manner as may be deemed by such board of estimate and apportionment necessary to carry into effect the provisions of this act.

§17. When existing rights, powers, duties or functions of a department bureau, officer or employee of the city are, by or under the authority of this act, conferred or imposed upon or transferred to another department, bureau, officer or employee of the city, the board of estimate and apportionment shall designate and direct the transfer accordingly of all funds, property, records, books, papers and documents which it shall deem necessary for that purpose and the same shall thereupon be transferred and delivered as so directed. All unexpended appropriations made for the exercise of rights, powers, duties and functions so transferred may be apportioned and transferred, in whole or in part, by the board of estimate and apportionment in its discretion.

§18. The department of labor shall transfer to the fire commissioner certified copies of all records in its office relating to the construction, alteration of and exits from buildings in the City of New York.

§19. The following sections of the Greater New York charter as enacted by this act, shall take effect immediately: Sections seven hundred and eighteen, seven hundred and eighteen-a, except subdivision four thereof, and seven hundred and eighteen-b, but the rules and regulations adopted by the board of standards and appeals shall not take effect until October first, nineteen hundred and sixteen. Subdivision four of section seven hundred and eighteen-a shall

* So in original.

take effect July first, nineteen hundred and sixteen. The rest of this act shall take effect October first, nineteen hundred and sixteen, except that the board of estimate and apportionment shall prior to such time take such action as may be deemed proper to put this act fully into force on said first day of October, nineteen hundred and sixteen. Any member of the board of examiners existing pursuant to section four hundred and eleven of the Greater New York charter, may be appointed and act as a member of the board of standards and appeals, between the time of the passage of this act and said first day of October, nineteen hundred and sixteen.

CITY OF NEW YORK
BOARD OF ESTIMATE AND APPORTIONMENT
AMENDED BUILDING ZONE RESOLUTION
(Adopted October 3, 1924)

A RESOLUTION regulating and limiting the height and bulk of buildings hereafter erected and regulating and determining the area of yards, courts and other open spaces, and regulating and restricting the location of trades and industries and the location of buildings designed for specified uses and establishing the boundaries of districts for the said purposes.

Be it resolved by the Board of Estimate and Apportionment of The City of New York:

ARTICLE I.
Definitions.

§1. **Definitions.** Certain words in this resolution are defined for the purposes thereof as follows:

(a) Words used in the present tense include the future; the singular number includes the plural and the plural the singular; the word "lot" includes the word "plot"; the word "building" includes the word "structure."

(b) The "street line" is the dividing line between the street and the lot.

(c) The "width of the street" is the mean of the distances between the sides thereof within a block. Where a street borders a public place, public park or navigable body of water the width of the street is the mean width of such street plus the width, measured at right angles to the street line, of such public place, public park or body of water.

(d) The "curb level," for the purpose of measuring the height of any portion of a building, is the mean level of the curb in front of such portion of the building. But where a building is on a corner lot the curb level is the mean level of the curb on the street of greatest width. If such greatest width occurs on more than one street the curb level is the mean level of the curb on that street of greatest width which has the highest curb elevation. The "curb level" for the purpose of regulating and determining the area of yards, courts and open spaces is the mean level of the curb at that front of the building where there is the highest curb elevation. Where no curb elevation has been established or the building does not adjoin the street the average ground level of the lot shall be considered the curb level.

(e) A "street wall" of a building, at any level, is the wall or part of the building nearest to the street line.

(f) The "height of a building" is the vertical distance measured in the case of flat roofs from the curb level to the level of the highest point of the roof beams adjacent to the street wall, and in the case of pitched roofs from the curb level to the mean height level of the gable. Where no roof beams exist or there are structures wholly or partly above the roof the height

shall be measured from the curb level to the level of the highest point of the building. Where a building is a tenement house as defined in the Tenement House Law the height of the building on the street line shall be measured as prescribed in said law for the measurement of the height of a tenement house and such measurement shall be from the curb level as that term is used in said law.

(g) The "depth of a lot" is the mean distance from the street line of the lot to its rear line measured in the general direction of the side lines of the lot.

(h) A "rear yard" is an open unoccupied space on the same lot with a building between the rear line of the building and the rear line of the lot.

(i) The "depth of a rear yard" is the mean distance between the rear line of the building and the rear line of the lot.

(j) Lots or portions of lots shall be deemed "back to back" when they are on opposite sides of the same part of a rear line common to both and the opposite street lines on which the lots front are parallel with each other or make an angle with each other of not over 45 degrees.

(k) A "court" is an open unoccupied space, other than a rear yard, on the same lot with a building. A court not extending to the street or to a rear yard is an "inner court." A court extending to the street or a rear yard is an "outer court." A court on the lot line extending through from the street to a rear yard or another street is a "side yard."

(l) The "height of a yard or a court" at any given level shall be measured from the lowest level of such yard or court as actually constructed or from the curb level, if higher, to such level. The highest level of any given wall bounding a court or yard shall be deemed to be the mean height of such wall. Where a building is a tenement house, as defined in the Tenement House Law, the height of a yard or a court shall be measured as prescribed in such law.

(m) The "least dimension" of a yard or court at any level is the least of the horizontal dimensions of such yard or court at such level. If two opposite sides of a yard or court are not parallel the horizontal dimension between them shall be deemed to be the mean distance between them.

(n) The "length of an outer court" at any given point shall be measured in the general direction of the side lines of such court from the end opposite the end opening on a street, or a rear yard, to such point.

ARTICLE II. *Use Districts.*

§2. **Use Districts.** For the purpose of regulating and restricting the location of trades and industries and the location of buildings designed for specified uses, the City of New York is hereby divided into three classes of districts: (1) residence districts, (2) business districts and (3) unrestricted districts; as shown on the amendment use district map which accompanies

this resolution and is hereby declared to be part hereof. The use districts designated on said amended map, consisting of thirty-five sheets and an index sheet, each dated July 1, 1924, and signed by the Chief Engineer of the Board of Estimate and Apportionment, are hereby established. The amended use district map designations and amended map designation rules which accompany said amended use district map are hereby declared to be part thereof. No building or premises shall be erected or used for any purpose other than a purpose permitted in the use district in which such building or premises is located.

§3. Residence Districts. In a residence district no building shall be erected other than a building, with its usual accessories, arranged, intended or designed exclusively for one or more of the following specified uses:

(1) Dwellings, which shall include dwellings for one or more families and boarding houses and also hotels which have thirty or more sleeping rooms.

(2) Clubs, excepting clubs the chief activity of which is a service customarily carried on as a business.

(3) Churches.

(4) Schools, libraries or public museums.

(5) Philanthropic or eleemosynary uses or institutions, other than correctional institutions.

(6) Hospitals and sanitariums.

(7) Railroad passenger stations.

(8) Farming, truck gardening, nurseries or greenhouses.

In a residence district no building or premises shall be used for any use other than a use above specified for which buildings may be erected and for the accessory uses customarily incident thereto. The term accessory use shall not include a business nor shall it include any building or use not located on the same lot with the building or use to which it is accessory. A private garage for more than five motor vehicles shall not be deemed an accessory use.

§4. Business Districts. (a) In a business district no building or premises shall be used, and no building shall be erected which is arranged, intended or designed to be used, for any of the following specified trades, industries or uses:

(1) Ammonia, chlorine or bleaching powder manufacture.

(2) Asphalt manufacture or refining.

(3) Assaying (other than gold or silver).

(4) Blacksmithing or horseshoeing.

(5) Boiler making.

(6) Brewing or distilling of liquors.

(7) Carpet cleaning.

(8) Celluloid manufacture.

(9) Crematory.

(10) Distillation of coal, wood or bones.

(11) Dyeing or dry cleaning.

(12) Electric central station power plant.

(13) Fat rendering.

(14) Fertilizer manufacture.

- (15) Garage for more than five motor vehicles, not including a warehouse where motor vehicles are received for dead storage only, and not including a salesroom where motor vehicles are kept for sale or for demonstration purposes only.
- (16) Gas (illuminating or heating) manufacture or storage.
- (17) Glue, size and gelatine manufacture.
- (18) Incineration or reduction of garbage, offal, dead animals or refuse.
- (19) Iron, steel, brass or copper works.
- (20) Junk, scrap paper or rag storage or baling.
- (21) Lamp black manufacture.
- (22) Lime, cement or plaster of paris manufacture.
- (23) Milk bottling and distributing station.
- (24) Oil cloth or linoleum manufacture.
- (25) Paint, oil, varnish or turpentine manufacture.
- (26) Petroleum refining or storage.
- (27) Printing ink manufacture.
- (28) Raw hides or skins—storage, curing or tanning.
- (29) Repair shop for motor vehicles.
- (30) Rubber manufacture from the crude material.
- (31) Saw or planing mill.
- (32) Shoddy manufacture or wool scouring.
- (33) Slaughtering of animals.
- (34) Smelting.
- (35) Soap manufacture.
- (36) Stable for more than five horses.
- (37) Starch, glucose or dextrine manufacture.
- (38) Stock yard.
- (39) Stone or monumental works.
- (40) Sugar refining.
- (41) Sulphurous, sulphuric, nitric or hydrochloric acid manufacture.
- (42) Tallow, grease or lard manufacturing or refining.
- (43) Tar distillation or manufacture.
- (44) Tar roofing or tar waterproofing manufacture.
- (45) Refrigerating plants, coal yards and coal pockets.*
- (46) Gasoline service station.†

(b) In a business district no building or premises shall be used, and no building shall be erected, which is arranged, intended or designed to be used for any trade, industry or use that is noxious or offensive by reason of the emission of odor, dust, smoke, gas or noise; but car barns or places of amusement shall not be excluded.

(c) In a business district no building or premises shall be used, and no building shall be erected, which is arranged, intended or designed to be used for any kind of manufacturing, except that any kind of manufacturing not included within the prohibitions of paragraphs a and b of this section may be carried on provided not more than 25' per cent. of the total floor

*Line 45 of section 4 amended as above November 24, 1924.

†Line 46 of section 4 added June 12, 1925.

space of the building is so used, but space equal to the area of the lot may be so used in any case, although in excess of said 25 per cent. The printing of a newspaper shall not be deemed manufacturing. No use permitted in a residence district by section 3 shall be excluded from a business district.

§5. Unrestricted Districts. The term "unrestricted district" is used to designate the districts for which no regulations or restrictions are provided by this article.

§6. Existing Buildings and Premises. (a) Any use existing in any building or premises on July 25, 1916, and not conforming to the regulations of the use district in which it is maintained, may be continued therein. No then existing building designed, arranged, intended or devoted to a use not permitted by this article in the district in which such use is located shall be enlarged, extended, reconstructed or structurally altered unless such use is changed to a use permitted in the district in which such building is located. Such building may, however, be reconstructed or structurally altered to an extent not greater than 50 per cent. of the value of the building, exclusive of foundations, provided that no use in such building is changed or extended, except as authorized in paragraph b of this section, and provided, further, that no use included in any one of the enumerated subdivisions of paragraph a of section 4 is changed into a use included in any other enumerated subdivision of paragraph a of section 4 or into a use prohibited by paragraph b of section 4, and also provided that no use prohibited by paragraph b of section 4 is changed into another use prohibited by paragraph b of section 4 or into a use included in an enumerated subdivision of paragraph a of section 4.

(b) Any use existing in any building or premises on July 25, 1916, and not conforming to the regulations of the use district in which it is maintained may be changed, and such use may be extended throughout the building, provided that in either case:

(1) No structural alterations shall be made in the building, except as authorized by paragraph a of this section, and

(2) In a residence district no portion of a building devoted to a use included in subdivision 1 of section 3 shall be changed to any use prohibited in a residence district, and

(3) In a residence district no building or premises, unless devoted to one of the uses that is by section 4 prohibited in a business district, shall be changed to any of such uses, and

(4) In a residence or business district no building or part thereof and no premises, unless devoted to one of the uses that is by paragraph a or b of section 4 prohibited in a business district, shall be changed to any of such uses.

If a use is changed as authorized in this section, the new use may thereafter be changed, subject to the limitations imposed by subdivisions 1, 2, 3 and 4 of this paragraph.

§7. Use District Exceptions. The Board of Appeals, created by chapter 503 of the laws of 1916, may, in appropriate cases, after public notice and hearing, and subject to appropriate

conditions and safeguards, determine and vary the application of the use district regulations herein established in harmony with their general purpose and intent as follows:

(a) Permit the extension of an existing building and the existing use thereof upon the lot occupied by such building at the time of the passage of this resolution or permit the erection of an additional building upon a lot occupied at the time of the passage of this resolution by a commercial or industrial establishment and which additional building is a part of such establishment;

(b) Where a use district boundary line divides a lot in a single ownership at the time of the passage of this resolution, permit a use authorized on either portion of such lot to extend to the entire lot, but not more than 25 feet beyond the boundary line of the district in which such use is authorized;

(c) Permit the extension of an existing or proposed building into a more restricted district under such conditions as will safeguard the character of the more restricted district;

(d) Permit in a residence district a central telephone exchange or any building or use in keeping with the uses expressly enumerated in section 3 as the purposes for which buildings or premises may be erected or used in a residence district;

(e) Permit in a business district the erection or extension of a garage or stable in any portion of a street between two intersecting streets in which portion there exists a garage for more than five motor vehicles or a stable for more than five horses which existed on July 25, 1916.*

(f) Grant in undeveloped sections of the city temporary and conditional permits for not more than two years for structures and uses in contravention of the requirements of this article.

(g) Permit in a business or residence district the erection of a garage provided the petitioner files the consents duly acknowledged of the owners of 80 per cent. of the frontage deemed by the Board to be immediately affected by the proposed garage. Such permit shall specify the maximum size or capacity of the garage and shall impose appropriate conditions and safeguards upon the construction and use of the garage.

ARTICLE III.

Height Districts.

§8. **Height Districts.** For the purpose of regulating and limiting the height and bulk of buildings hereafter erected, the City of New York is hereby divided into eight classes of districts: (a) one-quarter times districts; (b) one-half times districts; (c) three-quarter times districts; (d) one times districts; (e) one and one-quarter times districts; (f) one and one-half times district; (g) two times districts; (h) two and one-half times districts; as shown on the amended height district map which accompanies this resolution and is hereby declared to be part hereof. The height districts designated on said amended map, consisting of thirty-five sheets and an index sheet, each dated July 1, 1924, and signed by the Chief Engineer of the

*Paragraph (e) of section 7 amended as above Jan. 9, 1925.

Board of Estimate and Apportionment, are hereby established. The amended height district map designations and amended map designation rules which accompany said amended height district map are hereby declared to be part thereof. No building or part of a building shall be erected except in conformity with the regulations herein prescribed for the height district in which such building is located.

(a) In a one-quarter times district no building shall be erected to a height in excess of one-quarter times the width of the street, but for each two feet that the building or a portion of it sets back from the street line one foot shall be added to the height limit of such building or such portion thereof.

(b) In a one-half times district no building shall be erected to a height in excess of one-half times the width of the street, but for each one foot that the building or a portion of it sets back from the street line one foot shall be added to the height limit of such building or such portion thereof.

(c) In a three-quarter times district no building shall be erected to a height in excess of three-quarter times the width of the street, but for each one foot that the building or a portion of it sets back from the street line one foot shall be added to the height limit of such building or such portion thereof.

(d) In a one times district no building shall be erected to a height in excess of the width of the street, but for each one foot that the building or a portion of it sets back from the street line two feet shall be added to the height limit of such building or such portion thereof.

(e) In a one and one-quarter times district no building shall be erected to a height in excess of one and one-quarter times the width of the street, but for each one foot that the building or a portion of it sets back from the street line two and one-half feet shall be added to the height limit of such building or such portion thereof.

(f) In a one and one-half times district no building shall be erected to a height in excess of one and one-half times the width of the street, but for each one foot that the building or a portion of it sets back from the street line three feet shall be added to the height limit of such building or such portion thereof.

(g) In a two times district no building shall be erected to a height in excess of twice the width of the street, but for each one foot that the building or a portion of it sets back from the street line four feet shall be added to the height limit of such building or such portion thereof.

(h) In a two and one-half times district no building shall be erected to a height in excess of two and one-half times the width of the street, but for each one foot that the building or a portion of it sets back from the street line five feet shall be added to the height limit of such building or such portion thereof.

§9. Height District Exceptions. (a) On streets less than 50 feet in width the same height regulations shall be ap-

plied as on streets 50 feet in width and, except for the purposes of paragraph d of this section, on streets more than 100 feet in width the same height regulations shall be applied as on streets 100 feet in width.

(b) Along a narrower street near its intersection with a wider street, any building or any part of any building fronting on the narrower street within 100 feet, measured at right angles to the side of the wider street, shall be governed by the height regulations provided for the wider street. A corner building on such intersecting streets shall be governed by the height regulations provided for the wider street for 150 feet from the side of such wider street, measured along such narrower street.

(c) Above the height limit at any level for any part of a building a dormer, elevator bulkhead or other structure may be erected provided its frontage length on any given street be not greater than 60 per cent. of the length of such street frontage of such part of the building. Such frontage length of such structure at any given level shall be decreased by an amount equal to one per cent. of such street frontage of such part of the building for every foot such level is above such height limit. If there are more than one such structure, their aggregate frontage shall not exceed the frontage length above permitted at any given level.

(d) If the area of the building is reduced so that above a given level it covers in the aggregate not more than 25 per cent. of the area of the lot, the building above such level shall be excepted from the foregoing provisions of this article. Such portion of the building may be erected to any height, provided that the distance which it sets back from the street line on each street on which it faces, plus half of the width of the street, equals at least 75 feet. But for each one per cent. of the width of the lot on the street line that such street wall is less in length than such width of the lot, such wall may be erected four inches nearer to the street line.

(e) When at the time plans are filed for the erection of a building there are buildings in excess of the height limits herein provided within 50 feet of either end of the street frontage of the proposed building or directly opposite such building across the street, the height to which the street wall of the proposed building may rise shall be increased by an amount not greater than the average excess height of the walls on the street line within 50 feet of either end of the street frontage of the proposed building and at right angles to the street frontage of the proposed building on the opposite side of the street. The average amount of such excess height shall be computed by adding together the excess heights above the prescribed height limit for the street frontage in question of all of the walls on the street line of the buildings and parts of buildings within the above defined frontage and dividing the sum by the total number of buildings and vacant plots within such frontage.

(f) Nothing in this article shall prevent the projection of a cornice beyond the street wall to an extent not exceeding five

per cent. of the width of the street nor more than five feet in any case. Nothing in this article shall prevent the erection above the height limit of a parapet wall or cornice solely for ornament and without windows extending above such height limit not more than five per cent. of such height limit, but such parapet wall or cornice may in any case be at least five and one-half feet high above such height limit.

(g) The provisions of this article shall not apply to the erection of church spires, belfries, chimneys, flues or gas holders.

(h) Where not more than 50 feet of a street frontage would otherwise be subjected to a height limit lower than that allowed immediately beyond both ends of such frontage, the height limit on such frontage shall be equal to the lesser of such greater height limits.

(i) If an additional story or stories are added to a building existing at the time of the passage of this resolution, the existing walls of which are in excess of the height limits prescribed in this article, the height limits for such additional story or stories shall be computed from the top of the existing walls as though the latter were not in excess of the prescribed height limits and the carrying up of existing elevator and stair enclosures shall be exempted from the provisions of this article.

ARTICLE IV.

Area Districts.

§10. **Area Districts.** For the purpose of regulating and determining the area of yards, courts and other open spaces for buildings hereafter erected, the City of New York is hereby divided into six classes of area districts: A, B, C, D, E and F; as shown on the amended area district map which accompanies this resolution and is hereby declared to be part hereof. The area districts designated on said amended map, consisting of thirty-five sheets and an index sheet, each dated July 1 1924, and signed by the Chief Engineer of the Board of Estimate and Apportionment, are hereby established. The amended area district map designations and amended map designation rules which accompany said amended area district map are hereby declared to be a part thereof. No building or part of a building shall be erected except in conformity with the regulations herein prescribed for the area district in which such building is located. Unless otherwise expressly provided the term rear yard, side yard, outer court or inner court when used in this article shall be deemed to refer only to a rear yard, side yard, outer court or inner court required by this article. No lot area shall be so reduced or diminished that the yards, courts or open spaces shall be smaller than prescribed in this article.

§11. **A Districts.** In an A district a court at any given height shall be at least one inch in least dimension for each one foot of such height.

§12. **B Districts.** In a B district a rear yard at any given height shall be at least two inches in least dimension for each one foot of such height. The depth of a rear yard at its lowest level shall be at least 10 per cent. of the depth of the lot.

but need not exceed 10 feet at such level. An outer court or a side yard at any given height shall be at least one inch in least dimension for each one foot of such height. An outer court at any given point shall be at least one and one-half inches in least dimension for each one foot of length. But for each one foot that an outer court at any given height would, under the above rules, be wider in its least dimension for such height than the minimum required by its length, one inch shall be deducted from the required least dimension for such height for each 24 feet of such height. A side yard for its length within 50 feet of the street may for the purposes of the above rule be considered an outer court.

§13. **C Districts.** (a) In a C district a rear yard at any given height shall be at least three inches in least dimension for each one foot of such height. The depth of a rear yard at its lowest level shall be at least 10 per cent. of the depth of the lot, but need not exceed 10 feet at such level. An outer court or a side yard at any given height shall be at least one and one-half inches in least dimension for each one foot of such height. An outer court at any given point shall be at least one and one-half inches in least dimension for each one foot of length. On a lot not more than 30 feet in mean width an outer court or a side yard at any given height shall be not less than one inch in least dimension for each one foot of such height, and an inner court at any given height shall be either (1) not less than two inches in least dimension for each one foot of such height or (2) it shall be of an equivalent area as hereinafter specified in paragraph c of section 18.

(b) If the owner or owners of any part of a C district set aside perpetually for the joint recreational use of the residents of such part designated by them, an area at least equal to 10 per cent. of the area of such part in addition to all yard and court requirements for a B district, such part shall be subject to the regulations herein prescribed for a B district. Such joint recreational space shall be composed of one or more tracts, each of which shall be at least 40 feet in least dimension and 5,000 square feet in area and shall be approved by the Board of Appeals as suitable for the joint recreational use of such residents.

§14. **D Districts.** (a) In a D district a rear yard at any given height shall be at least four inches in least dimension for each one foot of such height. The depth of a rear yard at its lowest level shall be at least 10 per cent. of the depth of the lot, but need not exceed 10 feet at such level. If a building in a D district is located in a residence district as designated on the amendment use district map, the depth of a rear yard at its lowest level shall be at least 20 per cent. of the depth of the lot, but need not exceed 20 feet at such level. However for each one foot in excess of 10 feet of the depth of such rear yard at its lowest level, there may be substituted one foot of depth of unoccupied space across the whole width of the front of the lot at the curb level between the street line and the street wall of the building.

(b) In a D district an outer court or a side yard at any given height shall be at least two inches in least dimension for each one foot of such height. An outer court at any given point shall be at least two inches in least dimension for each one foot of length. On a lot not more than 30 feet in mean width an outer court or a side yard at any given height shall be not less than one and one-half inches in least dimension for each one foot of such height. On such lot an outer court at any given point shall be not less than one and one-half inches in least dimension for each one foot of length. On such lot an inner court at any given height shall be either (1) not less than three inches in least dimension for each one foot of such height or (2) it shall be of an equivalent area as specified in paragraph c of section 18.

(c) In a D district no building located within a residence district as designated on the amended use district map shall occupy at the curb level more than 60 per cent. of the area of the lot, if an interior lot, or 80 per cent. if a corner lot. In computing such percentage any part of the area of any corner lot in excess of 8,000 square feet shall be considered an interior lot.

(d) If the owner or owners of any part of a D district set aside perpetually for the joint recreational use of the residents of such part designated by them, an area at least equal to 10 per cent. of the area of such part in addition to all yard and court requirements for a C district, such part shall be subject to the regulations herein prescribed for a C district. Such joint recreational space shall be composed of one or more tracts, each of which shall be at least 40 feet in least dimension and 5,000 square feet in area and shall be approved by the Board of Appeals as suitable for the joint recreational use of such residents.

§15. E Districts. (a) In an E district a rear yard at any given height shall be at least five inches in least dimension for each one foot of such height. The depth of a rear yard at its lowest level shall be at least 15 per cent. of the depth of the lot, but need not exceed 15 feet at such level. If a building in an E district is located in a residence district as designated on the amended use district map, the depth of a rear yard at its lowest level shall be at least 25 per cent. of the depth of the lot, but need not exceed 25 feet at such level. However, for each one foot in excess of 10 feet of the depth of such rear yard at its lowest level, there may be substituted one foot of depth of unoccupied space across the whole width of the front of the lot at the curb level between the street line and the street wall of the building. In an E district on at least one side of every building located within a residence district there shall be a side yard along the side lot line for the full depth of the lot or back to the rear yard.

(b) In an E district an outer court or side yard at any given height shall be at least two and one-half inches in least dimension for each one foot of such height. On a lot not more than 50 feet in mean width an outer court or a side yard at any given

height shall be at least two inches in least dimension for each one foot of such height. An outer court at any given point shall be at least two and one-half inches in least dimension for each one foot of length.

(c) In an E district no building located within a residence district as designated on the amended use district map shall occupy at the curb level more than 50 per cent. of the area of the lot, if an interior lot, or 70 per cent. if a corner lot, and above a level 18 feet above the curb no building shall occupy more than 30 per cent. of the area of the lot, if an interior lot, or 40 per cent. if a corner lot. In computing such percentage any part of the area of any corner lot in excess of 8,000 square feet shall be considered an interior lot.

(d) In an E district no portion of any building shall be erected nearer than 10 feet to the line of any street as laid out upon the City map.

§16. **F Districts.** (a) In an F district no portion of any building shall be erected nearer than 15 feet to the building line of any street.

(b) In an F district a rear yard at any given height shall be at least six inches in least dimension for each one foot of such height. The depth of a rear yard at its lowest level shall be at least 20 per cent. of the depth of the lot, but need not exceed 20 feet at such level. Excepting that if a building in an F. district is located in a residence district as designated on the amended use district map, the depth of a rear yard at its lowest shall be at least 30 per cent of the depth of the lot, but need not exceed 30 feet at such level. However, for each one foot in excess of 15 feet of the depth of such rear yard at its lowest level there may be substituted one foot of additional depth of unoccupied space to that hereinbefore provided across the whole width of the front of the lot at the curb level between the street line and the street wall of the building. In an F district, on both sides of every dwelling there shall be a side yard along the side lot line for the full depth of the lot or back to the rear yard. For every residential building located in a residence district both sides of such building shall be capable of being afforded direct light, air and access upon such side yards for its entire length.

(c) In an F district an outer court or side yard at any given height shall be at least three inches in least dimension for each one foot of such height, excepting that on a lot not more than 50 feet in mean width an outer court or a side yard at any given height shall be at least two and one-half inches in least dimension for each one foot of such height. An outer court at any given point shall be at least three inches in least dimension for each one foot of length.

(d) In an F district no building shall occupy at the curb level more than 35 per cent. of the area of the lot, if an interior lot, or 50 per cent. if a corner lot, and above a level 18 feet above the curb no building shall occupy more than 25 per cent. of the area of the lot, if an interior lot, or 30 per cent. if a

corner lot, exclusive in each case of garages. In computing such percentage any part of the area of any corner lot in excess of 6,000 square feet shall be considered an interior lot.

§17. Rear Yards. (a) Except in A districts, for lots or portions of lots that are back to back there shall be rear yards extending along the rear lot lines of such lots or portions of lots wherever they are more than 55 feet back from the nearest street. Such rear yard shall be at least of the area and dimensions herein prescribed for the area district in which it is located at every point along such rear lot line. Within 55 feet of the nearest street no rear yards shall be required, except in F area districts. No rear yards shall be required on any corner lot nor, excepting in an F area district, on the portion of any lot that is back to back with a corner lot.

(b) Where a building is not within a residence district as designated on the amended use district map, the lowest level of a rear yard shall not be above the sill level of the second story windows, nor in any case more than 23 feet above the curb level. Where a building is within a residence district the lowest level of a rear yard shall not be above the curb level, except that not more than 40 per cent. of the area of the yard may be occupied by the building up to a level 18 feet above the curb level. In the case of a church, whether within or without a residence district, such 40 per cent. may be occupied up to a level of 30 feet above the curb level.

(c) Chimneys or flues may be erected within a rear yard provided they do not exceed five square feet in area in the aggregate and do not obstruct ventilation.

(d) Except in A districts, where a building on an interior lot between lots for which rear yards are required runs through the block from street to street or within 55 feet of another street, there shall be on each side lot line above the sill level of the second story windows and in any case above a level 23 feet above the curb level a court of at least equivalent area at any given height to that required for an inner court at such height and having at least dimension not less than that required for an outer court at the same height.

(e) When a proposed building is on a lot which is back to back with a lot or lots on which there is a building or buildings having rear yards less in depth than would be required under this article, the depth of the rear yard of the proposed building shall not be required to be greater at any given level than the average depth of the rear yards directly back to back with it at such level, but in no case shall the depth of such rear yard be less at any height than the least dimension prescribed for an outer court at such height.

§18. Courts. (a) If a room in which persons live, sleep, work or congregate receives its light and air in whole or in part directly from an open space on the same lot with the building, there shall be at least one inner court, outer court, side yard or rear yard upon which a window or ventilating skylight opens from such room. Such inner court, outer court or side yard

shall be at least of the area and dimensions herein prescribed for the area district in which it is located. Such rear yard shall be at least of the area and dimensions herein prescribed for an inner court in the area district in which it is located. In an A district, such inner court, outer court, side yard or rear yard shall be at least of the area and dimensions herein prescribed for a court in such district. The unoccupied space within the lot in front of every part of such window shall be not less than three feet, measured at right angles thereto. Courts, yards and other open spaces, if provided in addition to those required by this section, need not be of the area and dimensions herein prescribed. The provisions of this section shall not be deemed to apply to courts or shafts for bathrooms, toilet compartments, hallways or stairways.

(b) The least dimension of an outer court, inner court or side yard at its lowest level shall be not less than four feet, subject to the following exceptions:

(1) Where the walls bounding a side yard within the lot are more than 25 feet in mean height and not more than 40 feet in length such least dimensions may be not less than three feet.

(2) In an E district such least dimension shall be four feet.

(3) In an F district such least dimension shall be five feet.

(4) Where any outer court opens on a street such street may be considered as part of such court.

(c) The least dimension of an inner court at any given height shall be not less than that which would be required in inches for each one foot of height for a rear yard of the same height, except that an inner court of equivalent area may be substituted for said court, provided that for such area its least dimension be not less than one-half of its greatest dimension. If an inner court is connected with a street by a side yard, for each one foot that such side yard is less than 65 feet in depth from the street, one square foot may be deducted from the required area of the inner court for each 15 feet of height of such court. If the lot is not required under this resolution to have a rear yard, an outer court, not opening on a street, shall open at any level on an inner court on the rear line of the lot and such inner court shall be deemed a rear yard in such case.

§19. Area District Exceptions. (a) The area required in a court or yard at any given level shall be open from such level to the sky unobstructed, except for the ordinary projections of skylights and parapets above the bottom of such court or yard, and except for the ordinary projections of window sills, belt courses, cornices and other ornamental features to the extent of not more than four inches. However, where a side yard or an outer court opens on a street a cornice may project not over five feet into such side yard or outer court within five feet of the street wall of the building. And provided that in an E district a one-family residence, detached on all sides and having on one side a side yard of a clear and unobstructed width of not less than five feet, may have a cornice or eave projecting not more than 2 feet 6 inches into a side yard

on the opposite side, with the further provision that in an F district such cornice or eave, or a porte-cochere having a height of less than 18 feet, may project not more than 3 feet into both side yards.

(b) An open or lattice enclosed iron fire escape, fireproof outside stairway or solid-floored balcony to a fire tower may project not more than 4 feet into a rear yard or an inner court, except that an open or lattice enclosed iron fire escape may project not more than 8 feet into a rear yard or into an inner court when it does not occupy more than 20 per cent. of the area of such inner court.

(c) A corner of a court or yard may be cut off between walls of the same building provided that the length of the wall of such cut-off does not exceed 7 feet.

(d) An offset to a court or yard may be considered as a part of such court or yard provided that it is no deeper in any part than it is wide on the open side and that such open side be in no case less than 6 feet wide.

(e) If a building is erected on the same lot with another building the several buildings shall, for the purposes of this article, be considered as a single building, unless otherwise herein specifically provided for. Any structure, whether independent of or attached to a building, shall for the purposes of this article be deemed a building or a part of a building.

(f) If an additional story or stories are added to a building existing at the time of the passage of this resolution, the courts and yards of which do not conform to the requirements of this article, the least dimensions of yards and courts shall be increased from the top of the existing yard or court walls, as though they were of the prescribed dimensions at such heights and the carrying up of existing elevator and stair enclosures shall be exempted from the provisions of this article.

ARTICLE V.

General and Administrative.

§20. **Interpretation; Purpose.** In interpreting and applying the provisions of this resolution, they shall be held to be the minimum requirements adopted for the promotion of the public health, safety, comfort, convenience and general welfare. It is not intended by this resolution to repeal, abrogate, annul or in any way to impair or interfere with any existing provision of law or ordinance or any rules, regulations or permits previously adopted or issued or which shall be adopted or issued pursuant to law relating to the use of buildings or premises; nor is it intended by this resolution to interfere with or abrogate or annul any easements, covenants or other agreements between parties; provided, however, that where this resolution imposes a greater restriction upon the use of buildings or premises or upon height of buildings or requires larger yards, courts or other open spaces than are imposed or required by such existing provision of law or ordinance or by such rules, regulations or permits or by such easements, covenants or agreements, the provisions of this resolution shall control.

§21. Rules and Regulations; Modifications of Provisions. The Board of Standards and Appeals, created by chapter 503 of the Laws of 1916, shall adopt from time to time such rules and regulations as they may deem necessary to carry into effect the provisions of this resolution. Where there are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of the provisions of this resolution the Board of Appeals shall have power in a specific case to vary any such provision in harmony with its general purpose and intent, so that the public health, safety and general welfare may be secured and substantial justice done. Where the street layout actually on the ground varies from the street layout as shown on the amended use, height or area district map, the designation shown on the mapped areas shall be applied by the Board of Appeals to the unmapped streets in such a way as to carry out the intent and purpose of the plan for the particular section in question. Before taking any action authorized in this section the Board of Appeals shall give public notice and hearing.

No garage for more than five cars may be erected or extended and no building not now used as a garage for more than five cars may have its use changed to a garage for more than five cars on any portion of a street between two intersecting streets, in which portion there exists an exit from or an entrance to a public school; or in which portion there exists any hospital maintained as a charitable institution; and in no case within a distance of 200 feet from the nearest exit from or entrance to a public school; nor within 200 feet of any hospital maintained as a charitable institution. This protection shall also apply to duly organized schools for children under 16 years of age, giving regular instruction at least five days a week for eight months or more each year, owned and operated by any established religious body or educational corporation. This limitation on the location of garages shall apply to unrestricted as well as business and residence districts.

*No gasoline service station may be erected or extended on any portion of a street between two intersecting streets in which portion there exists an exit from or an entrance to a public school; and in no case within a distance of 200 feet from the nearest exit from or entrance to a public school. This protection shall also apply to duly organized schools for children under 16 years of age, giving regular instruction at least five days a week for eight months or more each year, owned and operated by any established religious body or educational corporation.

§22. Unlawful Use; Certificate of Occupancy. It shall be unlawful to use or permit the use of any building or premises or part thereof hereafter created, erected, changed or converted wholly or partly in its use or structure until a certificate of occupancy to the effect that the building or premises or the part thereof so created, erected, changed or converted and the

*Final paragraph added to Section 21 May 22. 1925.

proposed use thereof conform to the provisions of this resolution shall have been issued by the superintendent of buildings of the borough in which such building or premises are located, or, in the case of a tenement house as defined in the Tenement House Law, by the tenement house commissioner. In the case of such buildings or premises it shall be the duty of the superintendent of buildings or the tenement house commissioner, as the case may be, to issue a certificate of occupancy within ten days after a request for the same shall be filed in his office by any owner of a building or premises affected by this resolution, provided said building or premises, or the part thereof so created, erected, changed or converted and the proposed use thereof conform with all the requirements herein set forth. Under rules and regulations of the Board of Standards and Appeals a temporary certificate of occupancy for a part of a building may be issued by the superintendent of buildings or the tenement house commissioner, as the case may be. Upon written receipt from the owner, the superintendent of buildings or the tenement house commissioner, as the case may be, shall issue a certificate of occupancy for any building or premises existing at the time of the passage of this resolution certifying after inspection the use of the building or premises and whether such use conforms to the provisions of this resolution.

§23.* Enforcement, Legal Procedure, Penalties. This resolution shall be enforced by the tenement house commissioner and by the superintendent of buildings in each borough, under the rules and regulations of the Board of Standards and Appeals.

The tenement house commissioner shall enforce said regulations in so far as they affect or relate to tenement houses as defined by the tenement house law. The superintendent of buildings shall in each borough enforce said regulations in so far as they relate to buildings or premises other than tenement houses. Each of said officers within his jurisdiction is empowered to cause any building, structure, place or premises to be inspected and examined and to order in writing the remedying of any condition found to exist therein or thereat in violation of any provision of the building zone resolution adopted by the Board of Estimate and Apportionment on the twenty-fifth day of July, nineteen hundred and sixteen, and as subsequently amended. Such order may be served in the same manner as provided in section seven hundred and seventy-five of the Greater New York Charter for the service of orders by the fire commissioner.

The owner or general agent of a building or premises where a violation of any provision of said building zone resolution has been committed or shall exist, or the lessee or tenant of an entire building or entire premises where such violation has been committed or shall exist or the owner, general agent, lessee or tenant of any part of the building or premises in

* Section 23 amended as above May 29, 1925.

which such violation has been committed or shall exist or the general agent, architect, builder, contractor, or any other person who commits, takes part or assists in any such violation or who maintains any building or premises or any part thereof in which any violation shall exist shall be guilty of a misdemeanor.

Any such person who having been served with an order to remove any such violation shall fail to comply with said order within ten days after such service or shall continue to violate any provision of the said building zone resolution in the respect named in such order shall be guilty of a misdemeanor.

In addition to the foregoing remedies the City of New York by the Corporation Counsel may maintain an action for an injunction to restrain any violation of the said building zone resolution.

§24. Amendments, Alterations and Changes in District Lines. The Board of Estimate and Apportionment may from time to time on its own motion or on petition, after public notice and hearing, amend, supplement or change the regulations and districts herein established. Whenever the owners of 50 per cent. or more of the frontage in any district or part thereof shall present a petition duly signed and acknowledged to the Board of Estimate and Apportionment requesting an amendment, supplement, change or repeal of the regulations prescribed for such district or part thereof, it shall be the duty of the Board to vote upon said petition within 90 days after the filing of the same by the petitioners with the secretary of the Board. If, however, a protest against such amendment, supplement or change be presented, duly signed and acknowledged by the owners of 20 per cent. or more of any frontage proposed to be altered, or by the owners of 20 per cent. of the frontage immediately in the rear thereof, or by the owners of 20 per cent. of the frontage directly opposite the frontage proposed to be altered, such amendment shall not be passed except by the unanimous vote of the Board. If any area is hereafter transferred to another district by a change in district boundaries by an amendment, as above provided, the provisions of this resolution in regard to buildings or premises existing at the time of the passage of this resolution shall apply to buildings or premises existing at the time of passage of such amendment in such transferred area.

§25. Restoration of Existing Buildings. Nothing in this resolution shall prevent the restoration of a building wholly or partly destroyed by fire, explosion, act of God or act of the public enemy or prevent the continuance of the use of such building or part thereof as such use existed at the time of such destruction of such building or part thereof or prevent a change of such existing use under the limitations provided in section 6. Nothing in this resolution shall prevent the restoration of a wall declared unsafe by the superintendent of buildings or by a board of survey.

§26. **When Effective.** The zoning resolution of July 25, 1916, and all amendments thereto are hereby declared superseded by this resolution which shall take effect immediately.

APPENDIX—MAP DESIGNATIONS AND MAP DESIGNATION RULES ACCOMPANYING AMENDED BUILDING ZONE RESOLUTION.

(Adopted October 3, 1924)

AMENDED HEIGHT DISTRICT MAP DESIGNATIONS.

— — — indicates the boundary of a Height District.

($\frac{1}{4}$) ($\frac{1}{2}$) ($\frac{3}{4}$) (1) ($1\frac{1}{4}$) ($1\frac{1}{2}$) (2) ($2\frac{1}{2}$) are symbols for district classifications as defined in the zoning resolution.

AMENDED HEIGHT DISTRICT MAP DESIGNATION RULES.

1. An area surrounded by a district boundary line shall be in the Height District designated therein, except as otherwise provided by these rules.

2. The boundaries of Height Districts shall be the limiting line to which the regulations provided in any given district may be availed of.

3. The precise location of a boundary line is to be interpreted as follows:

(a) In cases where the district boundary is within a block and extends along the direction of the length thereof and no fixtures are shown, said boundary shall be deemed located 100 feet from the bounding street lying within the less restrictive district.

(b) In cases where the district boundary is within a block and extends along the direction of the width thereof and no fixtures are shown, said boundary shall be deemed located 100 feet from the nearest street.

(c) In cases where the boundary line is shown as being located a specific distance from a street line, this distance shall control.

(d) In cases where the boundary line is given a position within a street, it shall be deemed to be in the center of the street.

(e) In cases where a boundary line is shown along a railroad, such boundary shall be deemed to be the center line of the railroad right of way.

(f) In cases of navigable waters, the boundary line, unless otherwise fixed, shall be deemed to coincide with the pierhead line, except in cases where no pierhead line has been established when the shore line shall govern.

(g) Any island outside of the shore or pierhead lines, unless otherwise designated, shall be deemed to be in a $1\frac{1}{2}$ -times height district.

AMENDED AREA DISTRICT MAP DESIGNATIONS.

— indicates the boundary of an Area District.
(A) (B) (C) (D) (E) (F) are symbols for district classifications as defined in the zoning resolution.

AMENDED AREA DISTRICT MAP DESIGNATION RULES.

1. An area surrounded by a district boundary line shall be in the Area District designated therein, except as otherwise provided by these rules.

2. The boundaries of Area Districts shall be the limiting line to which the regulations provided in any given district may be availed of.

3. The precise location of a boundary line is to be interpreted as follows:

(a) In cases where the district boundary is within a block and extends along the direction of the length thereof and no fixtures are shown, said boundary shall be deemed located 100 feet from the bounding street lying within the less restrictive district.

(b) In cases where the district boundary is within a block and extends along the direction of the width thereof and no fixtures are shown, said boundary shall be deemed located 100 feet from the nearest street.

(c) In cases where the boundary line is shown as being located a specific distance from a street line, this distance shall control.

(d) In cases where the boundary line is given a position within a street, it shall be deemed to be in the center of the street.

(e) In cases where a boundary line is shown as adjoining a railroad, unless otherwise fixed, it shall be deemed to coincide with the boundary line of the railroad right of way.


(f) In cases of navigable waters the boundary line, unless otherwise fixed, shall be deemed to coincide with the bulkhead line, except in cases where no bulkhead line has been established, when the shore line shall govern.


(g) Any island outside of the shore or bulkhead lines, unless otherwise designated, shall be deemed to be in an A district.


AMENDED USE DISTRICT MAP DESIGNATIONS.

— indicates the boundary of a Use District.

 indicates Residence District.

 indicates Business District.

 indicates Unrestricted District.

 indicates Undetermined District for which no restrictions or regulations as to use have been established.

AMENDED USE DISTRICT MAP DESIGNATION RULES.

1. In general, Use Districts are intended to have a depth of 100 feet. Where block widths are less than 200 feet and no fixtures are shown, the district boundary is intended to be 100 feet from the street to which the less restrictive designation relates.

2. The boundaries of Use Districts shall be the limiting line to which uses permissible in any given district may be availed of.

3. The precise location of a boundary line is to be interpreted as follows:

(a) In case of parallel streets, unless otherwise fixed, the Use District boundary shall coincide with the center line of the block.

(b) In case of streets which are not parallel, the Use District boundary, unless otherwise fixed, shall be construed as the bisector of the angle formed by prolonging the street lines to an intersection.

(c) In cases where a block has a length in excess of 200 feet and the boundary line is parallel with and nearer one of the bounding streets, unless otherwise fixed, its position shall be considered as distant 100 feet from the nearest street.

(d) In cases where the boundary line is shown as being located a specific distance from a street line, this distance shall control.

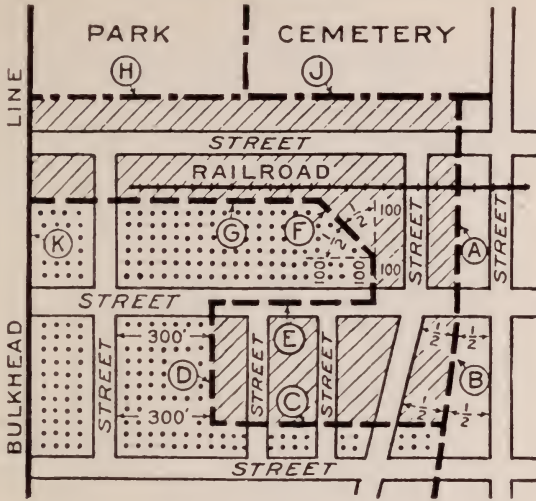
(e) In cases where the boundary line is given a position within a street, it shall be deemed to be in the center of the street.

(f) In cases where a boundary line is shown as having a position oblique to the streets bounding the block in which it is located, unless otherwise fixed, it shall be deemed to be the bisector of the angle formed by intersecting lines 100 feet from and parallel with the bounding streets, the said distance being measured at right angles or normal to the street lines.

(g) In cases where a boundary line is shown as adjoining a railroad, unless otherwise fixed, it shall be deemed to coincide with the boundary line of the railroad right of way.

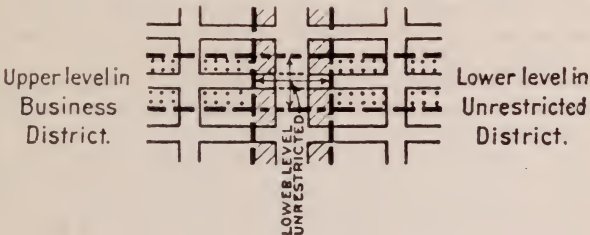
(h-j-k) In cases of parks, cemeteries and navigable waters, the boundary line, unless otherwise fixed, shall be deemed to coincide with the boundary of the park, or the cemetery, or the bulkhead line, except in cases where no bulkhead line has been established, when the shore line shall govern.

Diagram Illustrating Methods Used in Fixing Boundaries of Use Districts.



4. Where two streets cross at different levels, the use designation of the lower street shall control, except that when the use designation of the lower street is less restrictive it shall control only to the curb level of the higher street. Above the curb level of the higher street the more restrictive designation shall apply for a distance of 100 feet measured along the intersecting streets from each street corner.

Diagram Illustrating Two Level Streets.



CODE OF ORDINANCES.

CHAPTER 3.

ARTICLE 2.

Motion-Picture Exhibitions.

- Section 30. Definitions.
31. Control of motion-picture theatres.
32. Licenses.
32A. Exceptions.
33 Application for motion-picture theatre licenses.
34. Means of egress.
35. Fire prevention.
36. Fire extinguishing appliances.
37. Heating.
38. Lighting.
39. Ventilating.
40. Sanitation.
41. Public morals.
42. Private or non-professional exhibitions of motion-pictures.
43. Operators of motion-picture machines.
44. Violations.

§30. **Definitions.** Unless otherwise expressly stated, whenever used in this article, the following terms shall respectively be deemed to mean:

1. *Motion-pictures.* A display on a screen or other device of pictures or objects in motion or rapidly changing scenery, whether or not such display shall be accompanied by a lecture, recitation or vocal or instrumental music.

2. *Motion-picture theatre.* Any public hall or room in which motion-pictures are displayed, in which the seating capacity does not exceed 600 persons and in which there is no stage or scenery.

3. *Open-air motion-picture theatre.* Any public place or space in the open air, in which motion-pictures are exhibited and in which there is no stage or scenery.

§31. **Control of motion-picture theatres.** The commissioner of licenses shall regulate and control all motion-picture theatres and open-air motion-picture theatres. The commissioner shall appoint such inspectors as may be necessary to carry out the provisions of this article.

§32. **Licenses.** *Issue and Reissue.* All motion-picture theatres and open-air motion-picture theatres must be duly licensed. The commissioner may grant and issue any license required by this section. Motion-picture theatre

licenses and open-air motion-picture theatre licenses shall expire on the 30th day of June next succeeding the date of the issue thereof.

2. *Fees.* License fees shall be as follows:

For each motion-picture theatre, \$100;

For each open-air motion-picture theatre, \$50;

For motion-picture theatre licenses, and open-air motion-picture theatre licenses issued between the 1st day of January and the 30th day of June, inclusive, of any year, one-half the above mentioned fee shall be paid. (Ord. effective Sept. 22, 1914.)

§32a. *Exceptions.* All the provisions of this article excepting the provisions of subdivision 2 of section 30, and subdivision 2 of section 32, and all the provisions of article 24 of chapter 5, excepting the provisions of section 501, subdivisions 1, 3 and 5 of section 502, subdivisions 2, 3 and 4 of section 503, and subdivisions 1, 2 and 4 of section 506, shall apply to any motion picture theatre in a hotel located at a summer resort, where the seating capacity does not exceed 1,000, and in which there is no stage or scenery, and to which no admission fee is charged or exacted; provided, however, that no such motion picture theatre shall be operated above or below the ground floor of any building and that the Commissioner of Licenses shall have power in his discretion to enforce the provisions of subdivisions 3 and 4 of section 503, relating to exits and courts.

The license fee for a motion picture theatre as defined by the above paragraph shall be \$100.

§33. *Application for motion-picture theatre licenses.* Applications for motion-picture theatre licenses or for open-air motion-picture theatre licenses shall be made to the commissioner of licenses, who shall pass upon the location of the theatre and upon the character of the applicant for the license without delay. Upon the application for the issue or reissue of a license for a motion-picture theatre or an open-air motion-picture theatre, the commissioner shall request the fire department, the department of water supply, gas and electricity, the department of health, and the bureau of buildings of the borough in which such theatre is located, to inspect the same, and the said departments and the appropriate bureau of buildings shall, within 10 days after receiving such requests, file in the department of licenses detailed written reports, which shall include a statement of any violation of law, ordinance, rule or regulation relating to such structure, and any dangerous condition existing therein. Upon the failure of any department or bureau to file such report, the commissioner may disregard such department or bureau and, in his discretion,

may issue a license. Each applicant for a license for a motion-picture theatre or an open-air motion picture theatre, shall file plans and specifications for the theatre with the bureau of buildings of the borough in which the theatre is situated, or is to be erected or constructed, and a copy of such plans and specifications, duly approved by the appropriate superintendent of buildings, shall be filed in the department of licenses with the application for the license.

§34. Means of egress. 1. *Indication.* Over every exit there must be painted on the inside in letters not less than 6 inches high the word "Exit" in legible type, and one red light or illuminated sign must be placed inside over each exit, and illuminated while the audience is present.

2. *Obstruction prohibited.* All exit doors and doors leading to fire-escapes in all motion-picture theatres and open-air motion-picture theatres must be unlocked when the theatres are open to the public. All passageways and exits to the street required by law or ordinance must be kept free and clear, and shall be used for no other purpose than for entrance and exit to and from the theatre. No aisle, passageway or space in the rear of the seats in such a theatre shall be obstructed by any camp stool, chair, sofa or settee, nor shall any person be permitted to stand or sit therein.

§35. Fire prevention. 1. *Care of films.* Every booth in which a motion-picture projecting machine shall be operated shall contain an approved fireproof box for the storage of all picture films not on the projecting machine, and films shall not be stored in any other place on the premises. No film shall be rewound and repaired in a motion-picture theatre, except in the booth or in some other enclosure approved as fireproof by the fire commissioner. The requirements of this section shall apply to portable booths and booths in open-air theatres, as well as to motion-picture theatres.

2. *Cellars.* The basement or cellar under the auditorium shall be kept free and clear, except the space used for the heating apparatus, or for machinery connected with the theatre and for coal and except further that such basement or cellar, if separated from the auditorium by an unpierced floor, either of fireproof construction or covered on the under side with fire-retarding material approved by the fire commissioner and superintendent of bureau of buildings, may be occupied for a business deemed by the fire commissioner not to be hazardous.

§36. Fire extinguishing appliances. Portable fire extinguishing appliances, approved by the fire commissioner, shall be provided in every motion-picture theatre and open-air motion-picture theatre, of the following kind and number:

1. 10-quart capacity buckets, painted red with the word "Fire" in black, the letters 4 inches high, to the number of 6 for places seating less than 300 without a gallery, and 2 additional if there be a gallery, and to the number of 10 in places seating over 300 persons, and 4 additional buckets if there be a gallery;

2. Fire extinguishers, approved by the fire commissioner, of which 2 shall be on the main floor and 2 in the gallery, if there be one, and 1 in the operating booth;

3. 4-pound flat-head axes, 2 of which shall be on the main floor and 2 in the gallery, if there be one;

4. 2 buckets filled with dry sand, to be kept in the operating booth.

§37. **Heating.** When the temperature of the outdoor air is below 60 degrees F., the air in a motion-picture theatre, while an audience is present, shall be maintained at a temperature not lower than 62 degrees F. nor higher than 70 degrees F. If gas stoves, oil stoves or other apparatus throwing off products of combustion are used to heat such a theatre, said products of combustion must be carried to the outside air by means of fireproof flue or flues. No radiator shall be placed in the aisles of such a theatre so as to lessen the width below the minimum requirement. (C. O. §353e, subd. 2.)

§38. **Lighting.** Every portion of a motion-picture theatre, as defined aforesaid, including exits, courts and corridors devoted to the uses or accommodation of the public, shall be so lighted by electric light, during all exhibitions and until the entire audience has left the premises, that a person with normal eyesight should be able to read the Snellen standard test type 40 at a distance of 20 feet, and type 30 at a distance of 10 feet; normal eyesight meaning ability to read type 20 at a distance of 20 feet, in daylight. Cards showing types 20, 30 and 40 shall be displayed on the side walls, together with a copy of this section.

§39. **Ventilating.** Motion-picture theatres, as defined aforesaid, having less than 200 cubic feet of air space for each person, or motion-picture theatres in which the outside window and door area is less than $\frac{1}{8}$ of the floor area, shall be provided with artificial means of ventilation which shall supply, during the time when the audience is present, at least 500 cubic feet of fresh air per hour for each person.

Motion-picture theatres having more than 200 cubic feet of air space for each person, or having outside windows and doors the area of which is equal to at least $\frac{1}{8}$ of the floor area, shall be provided with artificial means of ventilation, that shall be in operation when the outside temperature requires the windows to be kept closed, and which shall supply, during the time the audience is present, at

least 500 cubic feet of fresh air per hour for each person. When the artificial ventilation is not in operation, ventilation by means of open doors and windows shall be sufficient to provide each person with 500 cubic feet of fresh air per hour.

Motion-picture theatres having more than 1,000 cubic feet of air space for each person and having outside windows and doors, the area of which is equal to at least $\frac{1}{8}$ of the total floor area, shall not be required to have artificial means of ventilation, provided the air is thoroughly changed by freely opening doors and windows, immediately before the admission of the audience and at least every 4 hours thereafter.

No part of the fresh air supply required by any paragraph of this section shall be taken from any source containing vitiated air. The area of outside doors and windows shall mean the area capable of being freely opened to the outside air for ventilation purposes. When fresh air is supplied by means of ventilating openings, at least 1 inlet shall be situated at one end of the room, and at least 1 outlet at the other end of the room. Where exhaust or inlet fans are necessary, at least 1 of such fans shall be placed in an outlet opening. The inlet opening or openings shall be placed in the floor or within 2 feet from the floor, and the outlet opening or openings in the ceiling, or within 2 feet of the ceiling. The inlet openings and their surroundings shall be kept free from dust, so that the incoming air shall not convey dust nor stir up dust as it enters.

During the time spectators are present, the air in the theatre shall be kept continuously in motion by means of fans to the number of at least 1 to every 150 persons. Such fans shall be placed in positions remote from the inlet and outlet openings. No person shall be exposed to any direct draft from any air inlet.

§40. Sanitation. 1. *Toilets.* Separate toilets for each sex must be provided in every motion-picture theatre and open-air motion-picture theatre.

2. *Cleanliness.* All motion-picture theatres shall be kept clean and free from dust. Their floors, where covered with wood, tiles, stone, concrete, linoleum, or other washable material, shall be mopped or scrubbed with water, or swept with moisture or by some dustless method, at least once daily, and shall be scrubbed with water and soap or water and some other solvent substance, at least once weekly. All carpets, rugs and other fabric floor coverings in such theatres shall be cleaned at least once daily, by suction cleaning, beating or dustless sweeping. Curtains and draperies shall be cleaned at least once monthly, by suction cleaning, beating or washing. Cornices, walls and other

dust-holding places shall be kept free from dust by washing or moist wiping. The wood and metal parts of all seats shall be kept clean. Fabric upholstery of seats and railings and other fixed fabrics shall be cleaned by suction cleaning, or other dustless method, at least once monthly.

§41. **Public morals.** The inspectors of the department of licenses shall investigate the character of exhibitions in motion-picture theatres and open-air motion-picture theatres, and shall report to the commissioner any offense against morality, decency or public welfare committed in said exhibitions.

§42. **Private or non-professional exhibitions of motion-pictures.** The provisions of this article shall not apply to motion-picture exhibitions, with or without charge for admission, conducted under the direct management of educational or religious institutions, or held or given in conjunction with and incidental to banquets, entertainments, lectures, receptions, expositions or dances, nor to motion picture exhibitions, without charge for admission, given or held not more than once a week in private residences or in bona fide social, scientific, political or athletic clubs, nor to any motion picture exhibitions in which the apparatus for projecting such motion-pictures uses only an enclosed incandescent lamp, only cellulose acetate or other slow-burning film of a size or perforation differing from the standard as used in theatrical machines, and is approved by the fire commissioner as being unsuitable for the use of inflammable motion-picture films.

1. Before motion pictures shall be exhibited, as above provided, there shall be obtained from the commissioner of licenses a permit for such exhibition, application for which shall have been filed in the department of licenses, at least 3 days prior to the date of said exhibition;

2. Before granting such permit, the commissioner shall cause to be inspected the premises where it is proposed that the exhibition shall be held, and shall grant the permit, if, in his judgment, the safety of the public is properly guarded, and provided that, for an audience of more than 75 people, all chairs or seats shall be securely fastened to the floor or fastened together in rows;

3. The apparatus for projecting such motion-pictures shall be contained in a fire-proof booth or enclosure constructed as required by law; except the apparatus or motion-picture machine uses only cellulose acetate films, of a size or perforation differing from the standard as used in theatrical machines, and uses only an enclosed incandescent lamp, and is approved by the fire commissioner as being unsuitable for the use of inflammable motion-picture films.

4. Every such exhibition shall be subject to the inspection of the officers and inspectors of the department of licenses, for the purposes of this article.

5. The commissioner of licenses may, in his discretion, impose a fee for the issuance of such permit, which said fee, however, shall not exceed \$5 for one month or part thereof.

6. Nothing contained in the foregoing paragraphs of this section shall be so construed as to permit any person, association or club to hold any motion-picture exhibitions, excepting exhibitions held under the direct management of religious or educational institutions, or given or held in conjunction with and incidental to banquets, entertainments, lectures, receptions, expositions or dances, where an admission is charged, without the payment of such license fee as is provided for in §32, article 2, chapter 3, of this ordinance.

§43. Operators of motion-picture machines. 1. *License required.* No person shall operate any motion-picture apparatus or any connection thereof, unless he shall have been duly licensed as hereinafter provided.

2. *Application for license.* Any person desiring to act as a motion-picture operator shall make application for a license as such to the commissioner of water supply, gas and electricity, who shall furnish to each applicant blank forms of application which he shall fill out and file with the commissioner.

3. *Examination.* The commissioner shall make rules and regulations governing the examination of applicants and the issuance of licenses and certificates; provided that each applicant shall be given a practical examination, under the direction of the commissioner.

4. *Issue of license and certificate.* If, on such examination, the applicant is found to be competent to operate motion-picture apparatus and its connections, he shall receive the license for which he has applied, within 6 days after his examination; which license shall continue in force for 1 year from the date of issue, unless sooner revoked or suspended. With every license granted there shall be issued to the person obtaining such license a certificate, made by the commissioner or such other officer as the commissioner may designate, setting forth that the person named therein is duly authorized to operate motion-picture apparatus and its connections.

5. *Posting certificate.* The certificate shall be displayed in a conspicuous place in the room in which the licensee operates a motion-picture apparatus and its connections.

6. *Discipline.* The license and certificate may be revoked or suspended at any time by the commissioner, in his discretion, for cause.

7. *Renewal of license.* Every license, unless revoked or suspended, as herein provided, may, at the end of a year from the date of issue thereof, be renewed by the commissioner in his discretion, upon application and with or without further examination as he may direct, but every application for renewal of license must be made within the 30 days previous to the expiration of such license.

8. *Unlicensed operators.* No person, not licensed as provided in this section, shall be employed to operate or be permitted to operate any motion-picture apparatus, or any connections thereof, in any motion-picture theatre, open-air motion-picture theatre or other place where motion-pictures are exhibited, to which the public is admitted, with or without charge for admission.

§44. **Violations.** Any person who shall violate, or refuse or neglect to comply with, any provision of this article shall, upon conviction thereof, be punished by a fine of not more than \$100, or by imprisonment not exceeding 30 days, or by both such fine and imprisonment; and any such person shall, also, for each offense, be subject to the payment of a penalty in the sum of \$50, to be recovered in a civil action.

Sects. 151 and 154, Art. XI, Chapter 10, Code of Ordinances.

§151. **Storage Garages.** No permit for a storage garage shall be issued for any building, shed or enclosure—

(a) Which is occupied as a tenement house, hotel or lodging house;

(b) Where paints, varnishes or lacquers are manufactured or kept for sale;

(c) Where dry goods or other highly inflammable materials are manufactured or kept for sale;

(d) Where rosin, turpentine, hemp, cotton or any explosives are stored or kept for sale;

(e) Which is situated within 20 feet of the nearest wall of a building occupied as a school, theatre or other place of public amusement or assembly, provided, however, that renewals of permits may be granted where the garage in question was in operation prior to the opening of the school, theatre or other place of public amusement or assembly, or has been in continuous operation under a permit issued therefor prior to May 1, 1915, and further provided that a permit may be issued for a garage hereafter erected within 20 feet of a building, the occupancy of which is enumerated in this subdivision, where the garage has no frontage on the same street with any frontage of such building, and the wall or walls of the garage adjacent

thereto are constructed of brick unpierced for a distance of at least 20 feet therefrom. (Amended by ord., approved August 8, 1916.)

§154. Garages in Buildings Having Dwelling Occupancies.—When permitted. A permit shall not be issued for a garage in a building occupied as a dwelling unless the ground floor area of the garage does not exceed 5,000 square feet and unless the occupants be the applicant or his employees or the applicant and one other tenant, or the applicant's employee and one other tenant, and provided that not more than two stories above the garage are occupied or used as living apartments, which apartments shall be separated from the garage by fire-retarding walls and floors, not pierced except by one opening, protected by a fireproof self-closing door, and provided that there shall be an entrance to the living apartments direct from the street without passing through the garage. In case the building is occupied by two families and on two stories above the garage, a fire escape or other secondary means of escape must be provided for each story above the garage. (Amended by ord., approved August 8, 1916.)

PLUMBING RULES

RULES AND REGULATIONS FOR PLUMBING AND DRAINAGE, WATER SUPPLY, GAS PIPING AND VENTILATION OF BUILDINGS

Adopted by the Superintendent of Buildings of the City of New York, effective April 23, 1912; as amended by the Board of Standards and Appeals July 5, 1917, and December 27, 1918; effective January 27, 1919.

Filing of Drawings, Descriptions, Etc.

1. Drawings and triplicate descriptions, on forms furnished by the bureau of buildings for all plumbing and drainage, shall be properly filled in, and filed by the owner or architect in the said bureau. The plans must be drawn to scale in ink, on cloth, or they must be cloth prints of such scale drawings, and shall consist of such floor plans and sections as may be necessary to show clearly all plumbing work to be done, and must show partitions and methods of ventilating water-closet apartments.

2. The said plumbing and drainage shall not be commenced or proceeded with until said drawings and descriptions shall have been so filed and approved by the superintendent of buildings.

3. No modification of the approved drawings and descriptions will be permitted unless either amended drawings and triplicate descriptions, or an amendment to the original drawings and descriptions, covering the proposed change or changes, are so filed and approved by the superintendent of buildings.

4. The drainage and plumbing of all buildings, both public and private, shall be executed in accordance with the rules and regulations of the bureau of buildings.

5. Repairs or alterations of plumbing or drainage may be made without filing drawings and descriptions in the bureau of buildings, but such repairs or alterations shall not be construed to include cases where new vertical lines or horizontal branches of soil, waste, vent or leader pipes are proposed to be used.

6. Notice of such repairs or alterations shall be given to the said bureau before the same are commenced in such cases as shall be prescribed by the rules and regulations of the said bureau, and the work shall be done in accordance with the said rules and regulations.

7. Where repairs or alterations, ordered by the board of health or tenement house department for sanitary reasons,

include cases where new vertical and horizontal lines of soil, waste, vent or leader pipes are proposed to be used or old ones replaced, drawings and descriptions must be filed with and approved by the superintendent of buildings before same shall be commenced or proceeded with.

8. Repairs and alterations may comply in all respects with the weight, quality, arrangement and venting of the rest of the work in the building. Except when an existing soil, waste or vent line has been damaged by fire or other causes to the extent of 50 per cent. or more of its entire length, same must be replaced by new lines installed in accordance with the rules and regulations governing new lines.

9. No plumbing and drainage or any part thereof shall be commenced until the plumber who is to do the work shall sign the specifications and make affidavit that he is duly authorized to proceed with the work. Affidavit must give the name and address of owner and plumber, etc. No registered plumber shall sign the specifications and act as the agent for a plumber who has not obtained a certificate of competency from the examining board of plumbers as an employing or master plumber. A violation of this rule will be deemed sufficient reason by the superintendent of buildings for the cancellation of a certificate of registration, in accordance with chapter 803, Laws of 1896.

10. One set of specifications will be received for not more than ten houses, and then only when on adjoining lots and houses are exactly alike.

11. Written notices must be given to the superintendent of buildings by the plumber when any work is begun, and at such times as the work is ready for inspection.

Definition of Terms.

12. The term "private sewer" is applied to main sewers that are not constructed by and under the supervision of the department of public works.

13. The term "house sewer" is applied to that part of the main drain or sewer extending from a point two feet outside of the outer front wall of the building, vault or area to its connection with public sewer, private sewer or cesspool.

14. The term "house drain" is applied to that part of the main horizontal drain and its branches inside the walls of the building, vault or area and extending to and connecting with the house sewer.

15. The term "soil line" is applied to any vertical line of pipe having outlets above the floor of first story for water closet connections.

16. The term "waste line" is applied to any vertical line of pipe having outlets above the first floor for fixtures other than water closet.

17. The term "vent pipe" is applied to any special pipe provided to ventilate the system of piping and to prevent trap siphonage and back pressure.

Materials and Workmanship

18. All materials must be of the best quality, free from defects, and all work must be executed in a thoroughly workmanlike manner.

19. All cast-iron pipes and fittings must be uncoated, sound, cylindrical and smooth, free from cracks, sand holes and other defects, and of uniform thickness. (Adopted March 8, 1921.)

20. Pipe, including the hub, shall weigh not less than the following average weights per linear foot:

Diameters	Weights per Linear Foot	
	Standard	Extra heavy
2 inches	3 3/5	5 1/2 pounds
3 inches	5 1/5	9 1/2 pounds
4 inches	7	13 pounds
5 inches	9	17 pounds
6 inches	11	20 pounds
7 inches	14	27 pounds
8 inches	17	33 1/2 pounds
10 inches	23	45 pounds
12 inches	33	54 pounds

Standard pipe may be used above ground in residence buildings not exceeding two stories and basement in height. In all other buildings extra heavy pipe shall be used. (Adopted March 8, 1921.)

21. The size, weight and maker's name must be cast on each length of pipe.

22. All joints must be made with picked oakum and molten lead and be made gas tight. Twelve ounces of fine, soft pig lead must be used at each joint for each inch in the diameter of the pipe when extra heavy pipe is used, and nine ounces when standard pipe is installed. (Adopted March 8, 1921.)

23. All wrought iron and steel pipe must be equal in quality to "standard" and must be properly tested by the manufacturer. All pipe must be lap-welded. No plain black or uncoated pipe will be permitted.

24. All wrought iron or steel water supply, vent, waste and soil pipes must be galvanized.

25. Where galvanized wrought iron or steel pipe is required the fittings used on same must also be galvanized.

26. Fittings for waste or soil and refrigerator waste pipes must be cast-iron recessed and threaded drainage fittings, with smooth interior waterways, and threads tapped, so as to give a uniform grade to branches of not less than one-fourth of an inch per foot. (Adopted March 8, 1921.)

27. Short nipples on wrought iron or steel pipe, where the unthreaded part of the pipe is less than one and one-half inches long, must be of the thickness and weight to correspond to weight of pipe. (Adopted March 8, 1921.)

28. The pipe shall not be less than the following average thickness and weight per linear foot:

Diameters.		Thicknesses.	Weights Per Linear Foot
1½ inches	.....	.14 inches	2.68 pounds
2 inches	.....	.15 inches	3.61 pounds
2½ inches	.....	.20 inches	5.74 pounds
3 inches	.....	.21 inches	7.54 pounds
3½ inches	.....	.22 inches	9.00 pounds
4 inches	.....	.23 inches	10.66 pounds
4½ inches	.....	.24 inches	12.34 pounds
5 inches	.....	.25 inches	14.50 pounds
6 inches	.....	.28 inches	18.76 pounds
7 inches	.....	.30 inches	23.27 pounds
8 inches	.....	.32 inches	28.18 pounds
9 inches	.....	.34 inches	33.70 pounds
10 inches	.....	.36 inches	40.06 pounds
11 inches	.....	.37 inches	45.02 pounds
12 inches	.....	.37 inches	48.98 pounds

29. All brass pipe for soil, waste and vent pipes and solder nipples must be thoroughly annealed, drawn, brass tubing, of standard iron-pipe gauge.

30. Connections on brass pipe and between brass pipe and traps on iron pipe must not be made with slip joints or couplings. Threaded connections on brass pipe must be of the same size as iron pipe thread for same size of pipe and be tapered.

31. The following average thicknesses and weights per linear foot will be required:

Diameters.	Thicknesses.	Weights Per Linear Foot.
1½ inches .....	.14 inches	2.84 pounds
2 inches .....	.15 inches	3.82 pounds
2½ inches .....	.20 inches	6.08 pounds
3 inches .....	.21 inches	7.92 pounds
3½ inches .....	.22 inches	9.54 pounds
4 inches .....	.23 inches	11.29 pounds
4½ inches .....	.24 inches	13.08 pounds
5 inches .....	.25 inches	15.37 pounds
6 inches .....	.28 inches	19.88 pounds

32. Where light or heavy pipe is used brass ferrules must be of best quality cast brass, not less than 4 inches long and 2 inches and 3 inches and 4 inches in inside diameter and not less than the following weights:

Diameters.	Weights.	
2 inches	1 pound	0 ounces
3 inches	1 pound	12 ounces
4 inches	2 pounds	8 ounces

(Adopted October 21, 1921. Amended July 17, 1923.)

33. One and one-half inch ferrules are not permitted.

34. Soldering nipples must be heavy cast brass or of brass pipe, iron pipe-size. When cast they must not be less than the following weights:

Diameters.	Weights.	
1½ inches	0 pound	8 ounces
2 inches	0 pound	14 ounces
2½ inches	1 pound	6 ounces
3 inches	2 pounds	0 ounces
4 inches	3 pounds	8 ounces

35. Brass screw caps for cleanouts must be extra heavy, not less than one-eighth of an inch thick. The screw cap must have a solid square or hexagonal nut, not less than one inch high, with a least diameter of one and one-half inches. The body of the cleanout ferrule must be at least equal in weight and thickness to the caulking ferrule for the same size of pipe.

36. Where cleanouts are required by rules and by the approved plans, the screw cap must be of brass. The en-

gaging part must have not less than six threads of iron-pipe size and be tapered. Cleanouts must be of full size of trap up to four inches in diameter, and not less than four inches for larger traps.

37. The use of lead pipes is restricted to the short branches of the soil and waste pipes, bends and traps, roof connections of inside leaders.

"Short branches" of lead pipe shall be construed to mean not more than:

- 8 feet of 1½ inch pipe.
- 5 feet of 2 inch pipe.
- 2 feet of 3 inch pipe.
- 2 feet of 4 inch pipe.

38. All connections between lead pipes and between lead and brass or copper pipes must be made by means of "wiped" solder joint.

39. All lead waste, soil, vent and flush pipes must be of the best quality, known in commerce as "D" and of not less than the following weights per linear foot:

Diameters	Weights Per Linear Foot.
1¼ inches (for flush pipes only).....	2½ pounds
1½ inches	3 pounds
2 inches	4 pounds
3 inches	6 pounds
4 and 4½ inches	8 pounds

40. All lead traps and bends must be of the same weights and thicknesses as their corresponding pipe branches. Sheet lead for roof flashings must be six-pound lead, and must extend not less than six inches from the pipe, and the joint made watertight.

41. Copper tubing, when used for inside leader roof connections, must be seamless drawn tubing, not less than 22 gauge, and when used for roof flashings must be not less than 18 gauge.

General Regulations.

42. Each building must be separately and independently connected with a public or private sewer, or cesspool, except where a building is located on the rear of the same lot with another building, when its plumbing and drainage system may be connected to the house-drain of the front building behind the house trap and fresh air inlet which shall be used for both buildings if sewer-connected; or may be connected to an existing cesspool of front house and be provided with a separate house trap and fresh air inlet.

43. Every building must have its sewer connections directly in front of the building, unless permission is otherwise granted by the Superintendent of Buildings.

44. Where there is no sewer in the street or avenue, and it is possible to construct a private sewer to connect in an adjacent street or avenue, a private sewer may be constructed, to be used in common for one or more buildings. It must be laid outside the curb under the roadway. (Adopted March 8, 1921.)

45. Cesspools and privy vaults will be permitted only after it has been shown to the satisfaction of the superintendent of buildings that their use is absolutely necessary.

46. When allowed, they must be constructed strictly in accordance with the terms of the permit issued by the Superintendent of Buildings.

47. Cesspools must not be used as privy vaults nor can privy vaults be used as cesspools. Cesspools and privy vaults must be located at least 15 feet from any building and on the same lot as the building for which their use is intended. Walls of cesspools and privy vaults when constructed of brick must be 8 inches thick; if of stone, 18 inches thick. Bottoms of cesspools and privy vaults must be of stone concrete 6 inches thick. The entire interior surface of cesspools and privy vaults must be finished with a coating of Portland cement mortar 1 inch thick.

48. As soon as it is possible to connect with a public sewer, the owner must have the cesspool and privy vault emptied, cleaned and disinfected and filled with fresh earth, and have a sewer connection made in the manner herewith prescribed.

49. All pipe lines must be supported at the base on brick piers, or by heavy iron hangers from the cellar-ceiling beams, and along the line by heavy iron hangers at intervals of not more than ten feet.

50. All pipes issuing from extensions or elsewhere, which would otherwise open within 20 feet of the window of any building, must be extended above the top of any window located within such distance. When a building exceeds in height that of an adjoining building, and windows or openings are cut in the wall on the lot line within 20 feet of the roof terminal of any soil, waste or vent line now in place or subsequently installed in the lower building, the owner of the higher building shall defray the expense of extending said soil, waste or vent lines above the roof of the higher building or shall himself make such alteration.

51. The arrangement of all pipes must be as straight and direct as possible. Offsets will be permitted only when unavoidable.

52. All pipes and traps should, where possible, be exposed to view. They should always be readily accessible for inspection and repairing.

53. In every building where there is a leader connected to the drain, if there are any plumbing fixtures, there must be at least one four (4) inch pipe extending above the roof for ventilation.

Yard, Area and Other Drains.

54. All yards, areas and courts exceeding 15 square feet in area must be drained into the sewer. A shaft open at the top not exceeding 25 square feet in area, and which cannot be connected in back of a leader, yard, court or area drain trap, may be drained into a publicly-placed, water-supplied, properly-trapped and vented slop sink.

55. These drains, when sewer-connected, must have connections not less than three inches in diameter. They should be controlled by one trap—the leader trap, if possible.

56. Floor drains will only be permitted when it can be shown to the satisfaction of the superintendent of buildings that their use is absolutely necessary and arrangements made to maintain a permanent water seal in the traps.

57. Cellar drains may be connected in back of and controlled by a leader, yard, court or area drain trap which need not be vented.

58. Subsoil drains should discharge into a sump or receiving tank, the contents of which if discharged by gravity may be discharged into a rain leader, yard, court or area drain behind the trap controlling same or may be discharged through a properly trapped and vented, water supplied receptacle. Where mechanical force is required to discharge the contents into the plumbing and drainage system, a proper automatic cut-off or check valve must be provided on the connection between house-drain and apparatus used for raising the contents of sump-pit.

59. The contents of settling chamber or dust receptacles for vacuum cleaners may be discharged into a Plumbing and Drainage system, the same as sub-soil drain sump-pits.

Leaders.

60. Every building shall be kept provided with proper metallic gutters and rain leaders for conducting water from all roofs in such manner as shall protect the walls and foundations from injury. In no case shall the water from any rain leader be allowed to flow upon the sidewalk or adjoining property, but the same shall be conducted by

proper pipes to the sewer. If there be no sewer in the street upon which the building fronts, then the water from said leaders may be conducted by proper pipes laid below the surface of sidewalk to the street gutter, or may be conducted by extra heavy cast-iron pipe to a leeching cesspool located at least 20 feet from any building. No plumbing fixtures shall discharge into a leeching cesspool.

61. Inside leaders must be made of cast iron, wrought iron or steel, with roof connections made gas and water tight by means of a heavy lead or copper-drawn tubing wiped to a brass ferrule or nipple caulked or screwed into the pipe.

62. Outside leaders may be made of sheet metal, but they must connect with the house drain by means of a cast-iron pipe extending vertically five feet above the grade level.

63. Leaders must be trapped with cast-iron running traps so placed as to prevent freezing.

64. Rain-water leaders must not be used as soil, waste or vent pipes nor shall any such pipe be used as a leader.

The House Sewer, House Drain, House Trap and Fresh Air Inlet.

65. Old house sewers can be used in connection with the new buildings or new plumbing only when they are found, on examination by the plumbing inspector, to conform in all respects to the requirements governing new sewers.

66. When a proper foundation consisting of a natural bed of earth, rock, etc., can be obtained, the house sewer can be of earthenware pipe.

67. Where the ground is made or filled in, or where the pipes are less than three feet deep, or in any case where there is danger of settlement by frost or from any cause, and when cesspools are used, the house sewer must be of extra heavy cast-iron pipe, with lead-caulked joints.

68. No earthenware house drain, when found in a leaky or defective condition, shall be repaired or replaced except with heavy cast-iron pipe.

69. The house drain and its branches must be of extra heavy cast iron when under ground, and of extra heavy cast iron or galvanized wrought iron or steel when above ground, except as provided in Rule 20 of these rules. (Adopted March 8, 1921.)

70. The house drain must properly connect with the house sewer at a point two feet outside of the outer front vault or area wall of the building. An arched or other proper opening must be provided for the drain in the wall to prevent damage by settlement.

71. The house drain if above the cellar floor must be supported at intervals of ten feet by eight-inch brick piers

or suspended from the floor beams, or be otherwise properly supported by proper hangers placed not more than 10 feet apart.

72. No steam-exhaust, boiler blow-off or drip-pipe shall be connected with the house-drain. Such pipes must first discharge into a proper condensing tank, and from this a proper outlet to the house sewer outside of the building must be provided. In low pressure steam systems the condensing tank may be omitted, but the waste connections must be otherwise as above required.

73. The house-drain and house-sewer must be run as direct as possible, with a fall of at least one-quarter inch per foot, all changes in direction made with proper fittings, and all connections made with Y branches and one-eighth and one-sixteenth bends.

74. The house-sewer and house-drain must be at least 4 inches in diameter when receiving the discharge of a water-closet. Where rain-leaders are connected to the plumbing system, the sizes of house-sewer, house-drain and leader connections shall be computed according to the square feet of area drained into them. No house-sewer or house-drain shall be of less diameter than the largest line of pipe connected thereon. The following table is the maximum area allowed to drain into pipes of given diameter.

Diameter of Pipe.	Fall.	Fall.
	$\frac{1}{4}$ Inch Per Foot.	$\frac{1}{2}$ Inch Per Foot.
3	1,200 square feet.	1,500 square feet.
4	2,500 square feet.	3,200 square feet.
5	4,500 square feet.	6,000 square feet.
6	8,000 square feet.	10,000 square feet.
7	12,400 square feet.	15,600 square feet.
8	18,000 square feet.	22,500 square feet.
9	25,000 square feet.	31,500 square feet.
10	41,000 square feet.	59,000 square feet.
12	69,000 square feet.	98,000 square feet.

75. Full size Y and T branch fittings for handhole clean-out must be provided where required on house-drain and its branches. No clean-out need be larger than 6 inches in diameter.

76. An iron running trap must be placed in the house-drain near the front wall of the house, and on the sewer side of all connections, except a Y fitting used to receive the discharge from an automatic sewage lift, oil separator, or a drip-pipe where one is used. If placed outside of the house or below the cellar floor, it must be made accessible

in a brick manhole, the walls of which must be eight inches thick, with an iron or flagstone cover. When outside the house it must never be less than three feet below the surface of the ground.

77. When the plumbing system of any building is altered by the addition of new soil, waste or vent lines to the extent of fifty per cent. or more and no house trap and fresh air inlet or leader trap exists on the house-drain, same shall be provided. (Adopted July 27, 1920.)

78. The house trap must have two cleanouts, with brass screw cap ferrules caulked in.

79. A fresh-air inlet pipe must be connected with the house-drain just inside of the house trap and extended to the outer air, terminating with open end at least one foot above the grade at most available point to be approved by the Superintendent of Buildings and shown on plans. The fresh-air inlet pipe shall be one-half the diameter of house-drain but not less than 4 inches in diameter. (Adopted March 8, 1921.)

80. No curb box or similar device with grating placed in sidewalk will be permitted for fresh air inlets.

Soil and Waste Lines.

81. All main, soil, waste or vent pipes must be of iron, steel or brass.

82. When they receive the discharge of fixtures on any floor above the first, they must be extended in full calibre at least one foot above the roof coping, and well away from all shafts, windows, chimneys or other ventilating openings. When less than four inches in diameter, they must be enlarged to four inches at a point not less than one foot below the roof surface by an increaser not less than nine (9) inches long.

83. No caps, cowls or bends shall be affixed to the top of such stack.

84. In all buildings, wire baskets must be securely fastened into the opening of each pipe in an accessible position. When roofs are used for drying purposes or roof gardens, all pipes shall be extended to a height of seven feet.

85. Necessary offsets above the highest fixture branch must not be made at an angle of less than forty-five degrees to the horizontal.

86. Soil and waste pipes must have proper Y or TY branches for all fixture connections.

87. No connection to lead branches for water-closets or slop sinks will be permitted, except the required branch vent.

88. Branch soil and waste pipe must have a fall of at least one-quarter inch per foot.

89. Short TY branches will be permitted on vertical lines only. Long one-quarter bends and long TYs are permitted. Short one-quarter bends and double hubs, short roof increasers and common offsets, and bands and saddles, are prohibited.

90. The diameters of soil and waste pipes must not be less than those given in the following table:

Main soil stacks in buildings serving not more than two sets of fixtures in four or less stories	4	inches
Main soil stacks in residence buildings serving not more than two sets of fixtures in five or six stories	4	inches
Main soil stacks in all other cases.....	5	inches
Branch soil pipes for not more than four closets	3	inches
Branch soil pipes for more than four water-closets	4	inches
Main waste stacks.....	2	inches
Main waste stacks for kitchen sinks on six or more floors.....	3	inches
Branch wastes for slop sinks.....	3	inches
Branch waste-pipes for laundry tubs.....	1½	inches
When set in ranges of three.....	2	inches
Branch waste for kitchen sinks.....	2	inches
Branch waste for urinals.....	2	inches
Branch waste for other fixtures.....	1½	inches

A set of fixtures, as used in this rule shall include not more than one water closet, one bath tub, one wash basin, one sink and two laundry trays. (Adopted March 8, 1921.)

Vent Pipes.

91. All traps, except approved anti-siphon traps connected to main waste or soil lines or to the house drain by branch piping not over seven (7) feet in length with a fall not exceeding two (2) inches per foot, shall be protected from siphonage and back-pressure by special lines of vent pipes; provided that where approved deep-seal siphon-jet water closet or slop sink fixtures are installed with branch piping not over five (5) feet in length from fixture to main soil or waste line, the vent pipe may be omitted for such fixtures in buildings not over eight (8) stories in height, and where the main soil or waste line is made one inch larger in diameter than required by these rules, the vent pipe may also be omitted for such fixtures in buildings over eight (8) stories in height.

92. All vent pipe lines and main branches must be of iron, steel or brass. They must be increased in diameter

and extended above the roof as required for waste-pipes. They may be connected with the adjoining soil or waste line well above the highest fixture, but this will not be permitted when there are fixtures on more than six floors.

93. All offsets must be made at an angle of not less than forty-five degrees to the horizontal, and all lines must be connected at the bottom with a soil or waste pipe or the drain in such a manner as to prevent the accumulation of rust scale.

94. Branch vent pipes shall be kept above the top of all connecting fixtures, so as to prevent the use of vent pipes as soil pipes or waste-pipes. Branch vent pipes should be connected not less than six inches nor more than two feet from crown of trap or side of lead bend.

95. Except where "yoke type" ventilation is installed, vent connections for water-closets and slop sinks must be made from the branch soil or waste pipe just below the trap of the fixture, and this branch vent pipe must be so connected as to prevent obstruction, and no waste pipe connected between it and the fixture. Earthenware traps must have no vent horns.

"Yoke type" ventilation shall be taken to mean a cross connection, by means of a horizontal branch soil or waste pipe, between the main soil or waste line and the vent line, and in which the connection between the branch pipe and the vent line is made at least six (6) inches above the line of fixtures discharging into such branch pipe.

96. No sheet metal, brick or other flue shall be used as a vent pipe.

97. The sizes of vent-pipes throughout must not be less than the following: For main vents, two inches in diameter; for water-closets on three or more floors, three inches in diameter; for other fixtures on less than seven floors, two inches in diameter; three-inch vent pipe will be permitted for less than nine stories; for more than eight and less than sixteen stories, four inches in diameter; for more than fifteen and less than twenty-two stories, five inches in diameter; for more than twenty-one stories the size of vent pipe shall be determined by the superintendent of buildings.

For fixtures other than water-closets and slop sinks and for more than eight stories, vent pipes may be one inch smaller in diameter than above stated.

For long branch vent pipes over 10 feet in length but not exceeding 25 feet, two inches in diameter; when over 25 feet in length, but not exceeding 50 feet, three inches in diameter. No branch vent pipe can exceed 50 feet in length, nor can any main vent be of less diameter than the largest branch vent connecting to same.

98. When the plumbing fixtures installed in any building are arranged in groups or batteries, "yoke type" ventilation may be installed, provided that for batteries of water closets each fixture shall be set not more than two (2) feet distant from the horizontal branch soil pipe into which it discharges, and for batteries of fixtures other than water closets each fixture shall be so located that its trap will be not more than two (2) feet distant from the horizontal branch waste line into which it discharges. When the ordinary type of venting is installed and the number of branch or back vents from the traps of fixtures connecting to any main branch vent exceeds the number and size given in the following table, a 3-inch main branch vent must be provided for the additional vent connections.

2—1½	inch branches on a 1½	inch main branch.
4—2	inch branches on a 2	inch main branch.
7—1½	inch branches on a 2	inch main branch.
2—2	} inch branches on a 2	inch main branch.
4—1½		
1—2	} inch branches on a 2	inch main branch.
5—1½		

Traps.

99. No form of trap will be permitted to be used unless it has been approved by the Superintendent of Buildings or the Board of Standards and Appeals.

No anti-siphon trap or deep-seal siphon-jet fixture shall be approved until it has successfully passed such test as may be prescribed by the Board of Standards and Appeals. (See page 343.)

100. No mason's cesspool, bell, pot, bottle or D-trap will be permitted, nor any form of trap that is not self-cleaning, nor that has interior chamber or mechanism, nor any trap except earthenware ones that depend upon interior partitions for a seal. Backwater or tide valves will only be permitted when it can be shown to the satisfaction of the superintendent of buildings that their use is absolutely necessary and of a type as approved by him.

101. Every fixture must be separately trapped by a water-sealing trap placed as close to the fixture outlet as possible, and no trap shall be placed more than 2 feet 0 inches from any fixture.

102. A set of not more than three wash trays may connect with a single trap, or into the trap of an adjoining sink, provided both sink and tub waste outlets are on the same side of the waste line, and the sink is nearest the line. When so connected, the waste-pipe from the wash-trays must be branched in below the water-seal.

103. The discharge from any fixture must not pass through more than one trap before reaching the house-drain.

104. All traps must be well supported and set true with respect to their water levels.

105. All fixtures, other than water-closets and urinals, must have strong metallic strainers or bars over the outlets to prevent obstruction of the waste-pipe.

106. All exposed or accessible traps, except water-closet traps, must have brass trap screws for cleaning the trap placed on the inlet side, or below the water level.

107. All iron traps for house-drain, yard and other drains and leaders must be running traps with handhole cleanouts of full size of the traps, when same are less than five (5) inches. All traps under ground must be made accessible by brick manholes with proper covers.

108. Overflow pipes from fixtures must in all cases be connected on the inlet side of traps.

109. All earthenware traps must have approved heavy brass floor plates properly secured to the branch soil pipe and bolted to the trap flange, and the joint made gas-tight. The use of rubber washers for floor connections is prohibited. All floor flanges must be set in place and inspected before any water-closet is set thereon.

110. No trap shall be placed at the foot of main soil and waste pipe lines.

111. Every plunge bath shall be provided with a trap at least four inches in diameter, the waste from trap to bath to be reduced to two inches in diameter and this waste to be controlled by a gate valve. Overflow pipes, if provided, must be connected on inlet side of trap. Except where an approved anti-siphon trap is installed in the manner specified in Rule 91, such trap must be ventilated by a separate vent line extended above the roof, of the same size as trap and water connection.

112. The sizes for traps must not be less than those given in the following table:

Traps for water-closets	4	inches in diameter.
Traps for slop sinks	3	inches in diameter.
Traps for kitchen sinks	2	inches in diameter.
Traps for wash trays	2	inches in diameter.
Traps for urinals	2	inches in diameter.
Traps for shower-baths	2	inches in diameter.
Traps for other fixtures	1½	inches in diameter.

Traps for leaders, area, floor and other drains must be at least 3 inches in diameter.

113. Every dental cuspidor must be separately trapped by a trap of at least one and one-half (1½) inches in diameter, which shall be vented except where an approved

anti-siphon trap is installed in the manner specified in Rule 91, and placed as close to the fixture as possible. The connection between trap and cuspidor may be three-quarters ($\frac{3}{4}$) of an inch in diameter.

114. No plumbing fixtures, except bar sinks, soda fountains or drinking fountains, shall be installed with an indirect waste connection to the plumbing and drainage system. The waste of every bar sink, soda fountain and drinking fountain if not directly connected, must discharge over a properly water-supplied, trapped sink, with trap vented, unless an approved anti-siphon trap is installed in the manner specified in Rule 91. The main waste lines shall be two (2) inches in diameter, and the branches to fixtures at least one and one-half ($1\frac{1}{2}$) inches in diameter. Drinking fountains must be trapped and the waste line extended through the roof. No vent connections need be provided.

Safe and Refrigerator Waste Pipes.

115. Safe and refrigerator waste-pipes must be of galvanized iron, and be not less than $1\frac{1}{4}$ inches in diameter nor larger than $1\frac{1}{2}$ inches in diameter with pipe branches at least 1 inch in diameter with strainers over each inlet.

116. Safe and refrigerator waste-pipes shall not be trapped. They must discharge over a properly water-supplied, trapped sink, with trap vented unless an approved anti-siphon trap is installed in the manner specified in Rule 91, such sink to be publicly placed, and not more than 4 feet above the floor. In no case shall any refrigerator or safe waste-pipe discharge over a sink located in a room used for living purposes.

117. The branches on vertical lines must be made by Y or TY fittings and carried up to the safe with as much pitch as possible.

118. Lead safes must be graded and neatly turned over bevel strips at their edges.

119. Where there is an offset on a refrigerator waste-pipe in the cellar, there must be cleanouts to control the horizontal part of the pipe.

120. In all lodgings and tenement houses the safe and refrigerator waste-pipes must extend above the roof.

Water Closets, Sinks and Washtubs.

(Good except as relating to tenement houses and factories.)

121. In all buildings, occupied as stores, dwellings, lodging or boarding houses, hotels, offices, lofts, workshops, factories or storage houses, there must be at least one water-closet in each building. There must be sufficient

persons to each water-closet. In places of public assembly, the number of toilets and the most available location are to be determined by the superintendent of buildings.

122. Separate water-closets and toilet rooms must be provided for each sex in buildings used as workshops, lofts, office buildings, factories, hotels and all places of public assembly.

123. In lodging houses, there must be one water-closet on each floor, and where there are more than 15 persons on any floor there must be an additional water-closet on that floor for every 15 additional persons or fraction thereof.

124. In tenement houses, lodging houses, factories, work-shops, and all public buildings, the entire water-closet apartment and side walls to a height of six inches from the floor, except at the door, must be made water-proof with asphalt, cement, tile, metal or other water-proof material as approved by the superintendent of buildings.

125. In all buildings, the water-closet and urinal apartments must be ventilated to the outer air by windows opening on the same lot as the building is situated on or by a ventilating skylight placed over each room or apartment wherein such fixtures are located.

126. In all buildings, the outside partition of any water-closet or urinal apartment must be air-tight and extend to the ceiling or be independently ceiled over. When necessary to properly light such apartments, the upper part of the partitions must be provided with translucent glass. The interior partitions of such apartments must be dwarfed partitions.

127. The general water-closet accommodation of any building cannot be placed in the cellar, nor can any water-closet be placed outside of a building except to replace an existing water-closet.

128. In alteration work where it is not practicable to ventilate a water-closet or urinal apartment by windows or a skylight directly to the outer air, there may be provided a galvanized wrought iron vent duct extended to the outer air which must be equal in area to at least 144 square inches for one water-closet or urinal, and an additional 72 square inches for each water-closet added therein.

129. Where water-closets will not support a rim-seat, the seat must be supported on galvanized iron legs.

130. Every earthenware water-closet with connection through the floor in all new work, and in all alterations, must be set on an approved floor slab of porcelain, slate or other material impervious to moisture, same to be not less in size than the base of the water-closet set thereon.

131. All water-closets must have earthenware flushing rim bowls. They must be set entirely free and open from all enclosing woodwork.

132. Pan, plunger, offset-washout and washout, or other water-closets having an unventilated space, or whose walls are not thoroughly washed out at each discharge, will not be permitted.

133. Long hopper water-closets will not be permitted, except earthenware hoppers where there is an exposure to frost.

134. Drip trays on water-closets will not be permitted.

135. Water closets and urinals must never be connected directly with or flushed from the water-supply pipes, except when flushometer valves are used.

136. Each water-closet and urinal must be flushed from a separate cistern, the water from which is used for no other purpose, or may be flushed through flushometer valves.

137. Where "Flushometers" are used, they must be supplied from tank pressure, unless otherwise permitted by the Superintendent of Buildings; the rising lines shall be at least one and one-half inches in diameter, and the main branches shall be at least one and one-quarter inches in diameter, with individual branches not less than one inch in diameter, for water-closets and not less than one-half inch in diameter for urinals. Individual branches shall not exceed twelve inches in length. (Amended, January 8, 1924.)

138. The overflow of cisterns may discharge into the bowls of the closet, but in no case connect with any part of the drainage system.

139. Iron water-closet and urinal cisterns and automatic water-closet and urinal cisterns are prohibited, unless approved by the superintendent of buildings.

140. The copper lining of water-closet and urinal cisterns must not be lighter than ten (10) ounce copper.

141. Water-closet flush pipes must be not less than one and one-fourth inches and urinal flush-pipes one (1) inch in diameter, and if of lead must not weigh less than two and one-half pounds and two pounds per linear foot. Flush couplings must be of full size of the pipe.

142. Rubber connections and elbows are not permitted on flush pipes.

143. Latrines, trough water-closets and similar appliances may be used only on written permit from said superintendent of buildings, and must be set and arranged as may be required by the terms of the permit.

144. All urinals must be constructed of materials impervious to moisture, and that will not corrode under the action of urine. The floor and wall of the urinal apartments must be lined with similar non-absorbent and non-corrosive material.

145. The platforms of treads of urinal stalls must never be connected independently to the plumbing system, nor can they be connected to any safe waste-pipe.

146. Iron trough water-closets and trough urinals must be enameled or galvanized.

147. In all houses, sinks must be entirely open, on iron legs or brackets without any enclosing woodwork.

148. Wooden washtubs are prohibited, except when used in hotels, restaurants or bottling establishments for washing dishes or bottles. Cement or artificial stone tubs will not be permitted unless approved by the superintendent of buildings.

Water Supply for Fixtures.

149. All water-closets and other plumbing fixtures must be provided with a sufficient supply of water for flushing to keep them in a proper and cleanly condition.

Flush tanks must have a capacity of eight gallons for water-closets and five gallons for urinals.

150. House service pipes must be connected to the street mains by means of taps, and a stop-cock or valve placed under the sidewalk at the curb, in compliance with the rules and under the supervision of the department of water supply, gas and electricity.

151. A separate stop or valve must be placed upon the service pipe inside the front wall.

152. The diameters of street service pipe must not be less than three-quarters inch for dwellings and tenements occupied by six families or less; one inch for tenements or apartment houses occupied by more than six families and one and one-half inch for hotels, factories and other miscellaneous buildings, provided that in no case can the diameter of the service pipes be less than the diameter of the tap installed under the supervision of the department of water supply, gas and electricity.

Riser Lines.

153. The diameter of all riser lines in plumbing systems shall be not less than three-quarter ($\frac{3}{4}$) inch; except that when lead or brass pipe is used, the minimum diameter may be one-half ($\frac{1}{2}$) inch.

Separate stop cocks or valves, so located as to be accessible at all times, shall be placed at the foot of each

riser line and, in all buildings other than residence buildings occupied exclusively by one or two families or having not more than fifteen sleeping rooms, on each branch line from the riser for each isolated fixture or each group of fixtures such as bathroom fixtures, kitchen fixtures, etc.; except that only one stop cock or valve shall be required for the fixtures contained in any one apartment, suite, store or loft occupied by one tenant when all the fixtures contained in each such apartment, suite, store or loft are supplied from one branch line.

154. Diameters of branches to any fixtures must not be less than one-half inch, except when used to supply water-closets, cisterns or lavatories. When the material used is lead or brass pipe, the minimum diameter may be three-eighths inch. Branches for flush valves for water-closets must not be less than one and one-quarter inch in diameter and for urinals not less than three-quarters of an inch in diameter.

155. Where a hot water supply system is installed, the distance between the hot and cold water risers should not be less than six inches. Where it is impossible to place them six inches or more apart, the hot water riser must be covered with an approved insulating material and a method of circulation provided that will insure a prompt delivery of hot water at the faucet when required.

156. All risers and branches must be properly fastened.

157. When the water pressure is not sufficient to supply freely and continuously all fixtures, a house supply tank must be provided of sufficient size to afford an ample supply of water to all fixtures at all times. Such tanks must be supplied from the pressure or by power pumps, as may be necessary; when from the pressure, ball cocks must be provided.

158. House supply tanks must be metal-covered so as to exclude dust and so located as to prevent water contamination by gas and odors from plumbing fixtures.

159. House supply tanks must be of wood or iron, or of wood lined with tinned and planished copper.

160. House tanks must be supported on iron beams.

161. The overflow pipe should discharge upon the roof, where possible, and in such cases should be brought down to within six (6) inches of the roof, or it must be trapped and discharged over an open and water-supplied sink not in the same room, not over three and one-half feet above the floor. In no case shall the overflow be connected with any part of the plumbing system.

162. Emptying pipes for such tanks must be provided, and be discharged in the manner required for overflow

pipes, and may be branched into overflow pipes. Emptying pipes for tanks containing more than five hundred (500) gallons must be four (4) inches in diameter and provided with a valve of same size fitted with a wheel or lever handle.

163. Acid wastes must be "B" lead pipe or earthen pipe; if of lead pipe they must be at least two inches in diameter, and if of earthen pipe at least three inches in diameter. They must be extended through roof for ventilation and continued down to the lowest story of building and so arranged as to discharge into a lime box and diluting sink properly trapped and vented and connected inside of house trap. If the lime box and diluting sink is not used the acid waste must be extended to an earthen house sewer or separately and independently connected to a public or private sewer in street and provided with an accessible running trap located just inside of front wall of building. All branches and joints on lead acid wastes must be made by means of burnt lead joints. If earthenware pipe is used, vertical joints must be made with a mixture of asphaltum and cement. Each length of pipe on vertical runs and on horizontal runs when above the cellar floor must be supported at each hub by proper supports. All floor drains and fixture connections must be trapped and run as direct as possible.

Sewage Lifts.

164. When it is necessary to use a sump system and sewage lift to receive the discharge from the waste or soil connection of fixtures, same shall be arranged to be accessible. If discharged with compressed air it shall be connected to the house drain on the sewer side of all leader or area drain traps and fixture connections or may be connected to house drain on the sewer side of house trap. A separate trap and fresh air inlet must be provided on the inlet side of sump and a 4-inch pipe line continued from drain discharging into sump up to and above roof. for purposes of ventilation. Relief pipes must be provided on sewage receptacles of sumps. Traps of fixtures connected to sump systems must not be vented to vent lines which are used to ventilate traps of fixtures on gravity system. Sump systems should be entirely separate both as to discharge and venting from rest of plumbing system in buildings.

Oil Separators.

165. Oil separators installed in any building where volatile fluids are used, must be arranged to be readily accessible. They must not receive the discharge of any water-closet, rain leader, yard, court or area drain.

166. They must, if discharged by gravity, be connected

by a Y branch fitting to the house drain behind the house trap in such a manner that they will not interfere with the house drain and the rest of the plumbing and drainage system. When mechanical force is used to discharge the contents, the connection must be made by a Y branch fitting on the sewer side of house trap.

167. No separate running trap need be provided on the drain entering oil separators, but a separate fresh air inlet and vent line must be provided to keep the system of drainage controlled by the oil separator entirely separate from the rest of plumbing and drainage system.

168. The size of fresh air inlet shall be determined by the size of inlet connection to oil separator, which shall be considered the same as the term house-drain for determining the size of all fresh air inlets, which shall conform to the same requirements as regards size and arrangement of terminals for fresh air inlets as called for in regulations.

169. Vent lines shall conform in all respects to vent lines for plumbing fixtures as regards size and arrangement.

170. Relief pipes must be provided at least $1\frac{1}{2}$ inches in diameter. They may be connected to a vent line when installed as a separate system or must be carried independently above the roof.

Testing the Plumbing System.

171. The entire plumbing and drainage system within the building must be tested by the plumber, in the presence of a plumbing inspector, under a water test. All pipes must remain uncovered in every part until they have successfully passed the test. The plumber must securely close all openings, as directed by the inspector of plumbing. The use of wooden plugs for this purpose is prohibited.

172. The water test will be applied by closing the lower end of the main house-drain and filling the pipes to the highest opening above the roof with water. The water test shall include at one time the house-drain and branches, all vertical and horizontal soil, waste and vent and leader lines and all branches therefrom to a point above the surface of the finished floor and beyond the finished face of walls and partitions. If the drain or any part of the system is to be tested separately, there must be a head of water at least six (6) feet above all parts of the work so tested, and special provision must be made for including all joints and connections in at least one test.

173. After the completion of the plumbing work in any new or altered building and before the building is occupied, a final smoke test must be applied in the presence of a

plumbing inspector. Except that for a building not over 6 stories in height, a peppermint test may be applied.

174. The material and labor for the tests must be furnished by the plumber. When the peppermint test is used, two ounces of oil of peppermint must be provided for each line up to five stories and cellar in height and an additional ounce of oil of peppermint must be provided for each line when lines are more than five stories in height.

Plumbing in Tenement Houses.

175. All sections or parts of sections of the tenement house law relating to plumbing and drainage of tenement houses are to be observed, and are hereby made a part of these rules and regulations.

Gas Piping and Fixtures.

176. Hereafter the gas piping and fixtures in all new buildings and all alterations and extensions made to the gas piping or fixtures in old buildings must be done in accordance with the following rules, which are made in accordance with the provision of Art. 29 of the Building Code.

For additional requirements of public buildings, theatres, and places of assemblage, see Art. 25 of the Building Code.

177. Before the construction or alteration of any gas piping in any building or part of any building, a permit must be obtained from the superintendent of buildings. This permit will be issued only to a registered plumber. Small alterations may be made by notifying the bureau of buildings, using the same blank forms provided for alterations and repairs to plumbing.

178. All gas pipe shall be of the best quality wrought iron or steel and of the kind classed as standard pipe, and shall weigh according to the following scale:

Diameters.	Weights per Linear Foot.
$\frac{3}{8}$ inch	0.56 pound
$\frac{1}{2}$ inch	0.85 pound
$\frac{3}{4}$ inch	1.12 pounds
1 inch	1.67 pounds
$1\frac{1}{4}$ inch	2.24 pounds
$1\frac{1}{2}$ inch	2.68 pounds
2 inch	3.61 pounds
$2\frac{1}{2}$ inch	5.75 pounds
3 inch	7.54 pounds
$3\frac{1}{2}$ inch	9.00 pounds
4 inch	10.66 pounds

No pipe allowed of less than $\frac{3}{8}$ inch in diameter.

water-closets so that there will never be more than 15
179. All fittings (except stop-cocks or valves) shall be of malleable iron.

180. There shall be a heavy brass straightway cock or valve on the service pipe immediately inside the front foundation wall. Iron cocks or valves are not permitted.

181. Where it is not impracticable so to do, all risers shall be left not more than five feet from front wall.

182. No pipe shall be laid so as to support any weight (except fixtures) or be subjected to any strain whatsoever. All pipe shall be properly laid and fastened to prevent becoming trapped, and shall be laid, when practicable, above timbers or beams instead of beneath them. Where running lines or branches cross beams, they must do so within thirty-six inches of the end of the beams, and in no case shall the said pipes be let into the beams more than two inches in depth. Any pipe laid in a cold or damp place shall be properly dripped, protected and painted with two coats of red lead and boiled oil or tarred.

183. No gas pipe shall be laid in cement or concrete unless the pipe or channel in which it is placed is well covered with tar.

184. All drops must be set plumb and securely fastened, each one having at least one solid strap. Drops and outlets less than $\frac{3}{4}$ of an inch in diameter shall not be left more than one inch below plastering, centre-pieces, or woodwork.

185. All outlets and risers shall be left capped until covered by fixtures.

186. No unions or running threads shall be permitted. Where necessary to cut out to repair leaks or make extensions, pipe shall be again put together with right and left couplings.

187. No gasfitters' cement shall be used, except in putting fixtures together.

188. All gas brackets and fixtures shall be placed so that the burners of same are not less than three feet below any ceiling or woodwork, unless the same is properly protected by a shield, in which case the distance shall not be less than eighteen inches.

No swinging or folding gas brackets shall be placed against any stud partition or woodwork.

No gas brackets on any lath and plaster partition or woodwork shall be less than five inches in length, measured from the burner to the plaster surface or woodwork.

Gas lights placed near window curtains or any other combustible material shall be protected by a proper shield.

189. Gas outlets for burners shall not be placed under tanks, back of doors or within four feet of any meter.

190. All buildings shall be piped according to the following scale:

Diameter.	Length.	Burners.
$\frac{3}{8}$ inch	26 feet	3
$\frac{1}{2}$ inch	36 feet	6
$\frac{3}{4}$ inch	60 feet	20
1 inch	80 feet	35
$1\frac{1}{4}$ inch	110 feet	60
$1\frac{1}{2}$ inch	150 feet	100
2 inch	200 feet	200
$2\frac{1}{2}$ inch	300 feet	300
3 inch	450 feet	450
$3\frac{1}{2}$ inch	500 feet	600
4 inch	600 feet	750

191. Outlets for gas ranges shall have a diameter not less than required for six burners, and all gas ranges and heaters shall have a straightway cock on service pipe.

192. When brass piping is used on the outside of plastering or woodwork, it shall be classed as fixtures.

193. All brass tubing used for arms and stems of fixtures shall be at least No. 18 standard gauge and full size outside so as to cut a full thread.

All threads on brass pipe shall screw in at least 5-16 of an inch. All rope or square tubing shall be brazed or soldered into fittings and distributors, or have a nipple brazed into the tubing.

194. All cast fittings, such as cocks, swing joints, double centres, nozzles, etc., shall be extra heavy brass. The plugs of all cocks must be ground to a smooth and true surface for their entire length, be free from sandholes, have not less than $\frac{3}{4}$ of an inch bearing (except in cases of special design), have two flat sides on the end for the washer, and have two nuts instead of a tail screw. All stop pins to keys or cocks shall be screwed into place.

195. After all piping is fitted and fastened and all outlets capped up, there must be applied by the plumber, in the presence of an inspector of the Bureau of Buildings, a test with air to a pressure equal to a column of mercury 6 inches in height, and the same to stand for five minutes; only mercury gauge shall be used. No piping shall be covered up, nor shall any fixture, gas heater or range be connected thereto until a card showing the approval of this test has been issued by the Superintendent of Buildings.

196. No meter will be set by any gas company until a certificate is filed with them from the Bureau of Buildings

certifying that the gas pipes and fixtures comply with the foregoing rules.

Modifications.

197. When for any reason it may be impracticable to comply strictly with the foregoing rules, the superintendent of buildings shall have power to modify their provisions so that the spirit and substance thereof shall be complied with. Such modifications shall be indorsed upon the permit over the signature of the superintendent of buildings.

ELEVATOR RULES

RULES FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF ELEVATORS, ADOPTED JULY 30, 1918, BY THE BOARD OF STANDARDS AND APPEALS, EFFECTIVE AUGUST 26, 1918; AMENDED MAY 13, 1919, EFFECTIVE JUNE 9, 1919.

NOTICE IS HEREBY GIVEN that Rules 2, 7, 13, 15, 16, 17, 21, 23, 33, 36 and 38, Rules for the Construction, Maintenance and Operation of Elevators, were amended by the Board of Standards and Appeals on May 13, 1919, said amendments to be effective June 9, 1919, and that the amendments so made are incorporated in the following Rules:

1. *Application of Elevator Rules.* Every elevator, escalator, freight conveyor or amusement device, within the City of New York, in addition to conforming to all provisions of the labor law, building code or other laws or ordinances, as are applicable thereto, shall comply with the requirements of these rules.

Existing and future installations shall at all times be maintained by the owner in a safe condition and in conformity with the requirements of these rules.

2. *Definitions Relating to Elevators.*

(a) The terms "elevator," "passenger elevator," "freight elevator" and "amusement device" shall have the meanings indicated in §560 of the building code.

(b) The term "dumbwaiter" shall apply to such special form of freight elevator, whether power driven or manually operated, the dimensions of which do not exceed nine square feet in horizontal section nor four feet in height.

(c) The term "hand power elevator" shall apply to such forms of passenger or freight elevators which are manually operated, the dimensions of which exceed nine square feet in horizontal section.

(d) The term "sidewalk type elevator" shall apply to such special form of freight elevator, either power driven or manually operated, the platform of which does not exceed fifty (50) square feet in area and is suspended or supported at one or more points on the underside.

(e) The term "escalator" shall apply to a moving continuous inclined stairway or runway designed for elevating or lowering passengers.

(f) The term "freight conveyor" shall apply to a device used for elevating or lowering freight in a vertical or inclined direction on a continuous moving carrier without the services of an operator thereon.

(g) The term "future installations" shall apply to any elevator, machinery or equipment used in connection therewith, installed after these rules become effective.

(h) The term "existing installations" shall apply to any elevator, machinery or equipment used in connection therewith, either already installed, in process of installation, or for which plans are on file with the superintendent of buildings prior to August 26, 1918.

(i) The term "alteration" shall include any essential change to the elevator car, counterweights, rails, machinery, safeties or other equipment or direct motive power; except that any repair work made necessary by the ordinary operation of the elevator shall not be deemed an alteration.

(j) The term "power driven elevator" shall apply to any form of elevator except those operated by hand power, gravity in both directions, or through friction grip on the pull rope.

3. *Permits.* The application required by §562, building code, for the installation or alteration of elevators, amusement devices, etc., shall be in triplicate on blanks furnished by the superintendent of buildings, stating the size, manner of construction, speed, capacity, other essentials, and mode of operation of the same, and accompanied by necessary drawings; except that applications for the installation of dumbwaiters and conveyors or hoists may consist of a notice to the superintendent of buildings that such installation is to be made.

4. *Alterations.* In making alterations to existing installations, the parts changed or altered must conform in every respect to the rules governing future installations, and where parts of the elevator are damaged from any cause, the damaged parts must be completely renewed, at the discretion of the superintendent of buildings.

Where hand power elevators are changed to power-driven elevators, they shall conform to every rule governing power-driven elevators, except, that when the rise is not more than thirty-five feet and the capacity is not increased, existing wood guide rails may remain in use. In such conversions the use of a power-driven friction grip device is prohibited when the capacity exceeds 800 pounds.

5. *Change of Classification.* In future, no freight elevator shall be used for passenger service, unless such elevator conforms to the rules governing future installations of passenger elevators in so far as they relate to safety equipment, hoist ropes, carrying capacity, car enclosure, including gates and emergency exit, shaft openings and doors, and motive power.

In existing installations where such change of classification is made and the hatchway is unenclosed, a substan-

tial enclosure of lawful partitions extending from floor to ceiling and flush with the hatchway shall be constructed, with all openings protected by proper shaft doors.

6. *Tests of New Elevators.* In future installations all elevators shall be tested as follows:

The cars of all power-driven elevators shall be loaded to their maximum carrying capacity and operated up and down the shaft several times to test the lifting capacity of the machinery and the operation of the upper and lower automatic limit devices. The car shall be stopped at various levels in the shaft to test the operation of the machine brake.

The cars of all power driven elevators having speeds exceeding one hundred (100) feet per minute, and of hand-power elevators with a rise of more than fifteen (15) feet, shall be loaded to their maximum carrying capacity, run to the top landing and made to travel downward beyond normal speed, so as to automatically operate the speed retarder or speed governor and car safety device and the slack rope device when required, and (except for hand-power elevators), to stop the machine. This rule shall not be construed, however, to require safe lift elevators to be tested with safe lift load.

The cars of power driven elevators having speeds of one hundred (100) feet per minute or less shall be loaded to their maximum carrying capacity, run to the top landing and started down at normal speed. At this speed the governor shall be manually operated to test the action of the safety equipment.

7. *Carrying Capacity.* In existing installations the owner, lessee or other person having charge or control of any elevator, except a dumbwaiter, and in future installations the manufacturer of any such elevator, shall cause to be fastened in a conspicuous place in the car of said elevator a metal plate, having suitable letters and figures on same, which shall designate the number of pounds weight which said elevator can safely carry.

Future installations shall be designed to sustain in all their parts a load per square foot of platform area inside the car of not less than the following:

- (a) 75 pounds for power-driven passenger elevators;
- (b) 50 pounds for power-driven freight elevators having platform areas not exceeding 100 square feet;
- (c) 50 pounds for hand-power passenger elevators.

8. *Rules to be Posted.* In the car of every passenger elevator the superintendent of buildings shall cause to be posted and maintained, in a conspicuous place, for the guidance and information of operators and passengers,

such of the rules relating to the operation of elevators as he may deem necessary to insure public safety, including the number of passengers that such car may carry at one time.

9. *Full automatic push button elevators.* In future installations full automatic push button elevators must be so designed and equipped that the car, at its rated speed and load, will automatically stop when the car floor is level with or not more than three inches from the designated landing floor.

The car gate and shaft doors shall be equipped with approved devices that will prevent the operation of the car until the car gate is closed and the shaft door is closed and locked. The shaft door shall not be capable of being opened unless the floor of the car is within three inches of the landing. A push button to operate an alarm bell shall be provided in the car, for the purpose of notifying the person in charge of the premises, in case the car becomes stopped in the shaft from any cause. The shaft doors shall be so arranged that they cannot be opened after the car leaves the landing, except in emergency cases, and then only by a special key which must be provided and kept in the possession of the person having charge of the building.

10. *Belt or chain drives.* In future installations no hoisting machine driven by a chain or belt device from a motor or countershaft shall be used in connection with any passenger elevator.

11. *Shaft openings.* In shafts hereafter constructed for passenger elevators, no more than one opening shall be allowed in each story, and all openings in the several stories shall be located one above the other, except that doors may be located on opposite or adjacent sides in the several stories when the distance from the car operating device to the door lock does not exceed forty-eight inches and can at all times be fully controlled by the elevator operator without leaving the car operating device. Door openings may be located on opposite or on adjacent sides of the shaft in the first or main entrance story and in the top story, provided that the openings in the remaining stories are all on the same side of the shaft, that a satisfactory device is installed preventing the operation of the car while the car gate distant from the operator is open, that an attendant is always present to control the shaft doors located in the first or top stories, and that there are no offsets or recesses on the inside of the shaft walls.

No alteration not in compliance with the above provision shall be made to any existing passenger elevator shaft.

12. *Hoistway enclosure.* In existing and future installa-

tions where no enclosure of solid partitions is required around the hoistway by the provisions of the building code, labor law or these rules, there shall be provided a substantial vertical enclosure extending from the floor for a distance of not less than six (6) feet on the side or sides where there are no openings in the car for loading purposes. On all other sides, gates or doors must be provided. Such enclosure may be constructed of mesh work, grille work or slatted partitions, provided that when mesh work is used it shall be of not less than No. 10 U. S. gauge wire of No. 13 U. S. gauge expanded metal, with mesh not exceeding one and one-half ($1\frac{1}{2}$) inches; when grille work is used there shall be not more than one and one-half ($1\frac{1}{2}$) inches space between any two members, except that where plain straight bars, not filled in with scroll, are used, there shall be not more than one (1) inch space between members; when wood slats are used they shall be not less than three-eighths ($\frac{3}{8}$) of an inch thick, spaced not more than one (1) inch between slats.

In all cases where existing grille work permitted by law or regulation as a shaft enclosure is altered, such alteration shall be of substantial material and construction, properly braced and carried the full height of openings, with not more than one and one-half inch space between any two members; except that where straight bars, not filled in with scroll work, are used, there shall be not more than one inch between members. Where deemed necessary, existing grille work with spaces exceeding those specified in this rule shall be made safe by suitable screen or wire mesh, or wire glass construction.

13. *Shaft doors.* In existing and future installations all gates or doors leading to any shaft in which power-driven passenger elevators are operated (except full automatic push button elevators) shall be locked, bolted or securely fastened on the shaft side. Such shaft doors or gates shall be closed by the operator before the car is put in motion.

In future installations of passenger elevators, keys for opening the shaft doors or gates from the outside of the shaft, in case of emergency, shall be provided and shall be restricted in use to persons in responsible charge of the building.

In existing and future installations in factory buildings only, the openings in every passenger or freight elevator shaft or hoistway enclosure shall be protected in one of the following manners:

- (a) by properly constructed sliding doors;
- (b) by combination slide and swing doors;
- (c) by hinged or swinging doors equipped with approved devices to insure the shaft doors being closed and locked before the car can start from the landing;

(d) by hinged or swinging doors, either manually operated or self-closing, with auxiliary gates not less than five (5) feet six (6) inches in height substantially constructed of wood or metal, with not more than two (2) inches space between any two parallel members, and the bottom of the gate not more than ten (10) inches from the floor, except at the top and bottom landings when the distance from the floor to the bottom of the gate may be increased to give the required head room, and shall close automatically upon the car leaving the landing in either direction; except further that for hand-power elevators having the pull rope located in front of the shaft entrance, gates may be two (2) feet six (6) inches in height.

When shaft doors are equipped with electric contacts or other locking devices, an approved emergency release shall be provided on the car within easy reach of the operator.

14. *Car gates.* In existing and future installations, all entrances to the cars of power-driven passenger elevators shall be provided with substantial folding or sliding gates or doors, and where floor tracks are used the same must be kept level with the finished floor surface of the car. All folding gates over three feet wide at the entrance to shaft or car shall have top and bottom braces, spaced not more than eighteen inches on centers when the gates are fully expanded. All car gates shall be closed by the operator before the car is put in motion.

In future installations passenger elevator car gates shall be equipped with an approved device or devices that will prevent the operation of the car while the car gates are open, and an approved emergency release shall be provided on the car within easy reach of the operator.

15. *Counterweights.* In future installations all counterweights shall have their sections securely bolted together with one or more rods, as determined by the superintendent of buildings. Such rods must pass through all the subweights and at least one portion of the frame work. No continuous forged straps shall be permitted.

In existing and future installations where counterweights run in the same shaft as the car, they shall, when at the uppermost position, be protected on all exposed sides the full length of the counterweight with substantial and properly secured shields or iron or steel not less than No. 16 U. S. gauge; except that for plunger or fixed stroke piston hydraulic or traction type elevators no top shield shall be required. Where no compensating chains or ropes are attached to the counterweight, similar shields shall be provided eighteen inches above the bottom of the counterweight runway and extending upwards at least five feet. In existing installations, where the clearance between car and counterweight is not more than one and one-half

inches, neither top nor bottom shields shall be required, but in lieu thereof tell-tale metal chains not less than five feet long, spaced not more than six (6) inches on centers from rail to rail, shall be suspended from the bottom of the counterweight.

16. *Speed governors.* All power-driven elevators with a rise of more than fifteen feet not already equipped with a speed governor and safety (except sidewalk type elevators and existing freight elevators in buildings not exceeding five stories in height and direct plunger elevators) shall have at the top of the elevator shaft a governor properly connected to a safety device attached to the underside of the car platform, in such manner that the car will be brought to rest with an easy and gradual stop, or in a distance not greater than nine feet at a speed of seven hundred feet per minute, provided that on elevators having a speed of one hundred feet per minute or less, safeties of the instantaneous type may be used. Every governor operating a car safety shall be set to trip the safety at a speed not exceeding forty per cent. above the rated speed given in the application, but in no case exceeding eight hundred and fifty feet per minute; but this shall not require any governor to trip the safety at a speed less than one hundred and fifty feet per minute. When a speed governor has been set for the rated speed it shall be sealed. When safeties of the instantaneous type are used, a proper flexible means of application must be interposed between the safety and the governor.

17. *Limit devices.* In future installations all power-driven elevators shall have approved limit devices, as follows:

(a) for Drum Type Electric Elevators, except sidewalk type elevators with speeds not exceeding seventy-five (75) feet per minute, limit switches on the machine and in the shaft or on the car;

(b) for Traction Type Electric Elevators, limit switches in the shaft or on the car;

(c) for Electric Drum Sidewalk Type Elevators, with speeds not exceeding seventy-five (75) feet per minute, machine automatics will be required but stopping devices on the operating rope will be accepted in lieu of limit switches in the shaft or on the car;

(d) for Hydraulic Elevators, with speeds not exceeding one hundred and fifty (150) feet per minute, stopping devices on the operating rope;

(e) for Hydraulic Elevators, with speeds, exceeding one hundred and fifty (150) feet per minute, limit devices on the machine;

(f) for Lever or Crank-Operated Hydraulic Elevators, limit devices on the machine.

18. *Elevator brake.* In future installations every electric elevator shall be equipped with an electric or electro-mechanical brake that will bring the car to rest when the car operating device is brought to the stop position or when any of the electric safety devices operate.

When the elevator is driven by a belt from an electric motor, the brake must be arranged to operate should the motor belt break or leave the pulleys.

19. *Operating device.* In future installations every elevator driven by electric power and operated by hand rope, lever, wheel or other non-self-centering device, shall be provided with an approved device preventing the operation of the car, after the interruption of the current, until the operating device has been first returned to the inoperative position, and electric car operating switches shall be self-centering and self-locking in the inoperative position.

20. *Reverse phase relays.* In future installations every elevator motor operated by polyphase alternating electric current shall be equipped with a reverse phase relay.

21. *Slack rope device.* In future installations all power-driven elevators, including power-driven sidewalk elevators, operated by drum hoisting machines shall have approved automatic slack rope devices that will stop the machine if, from any cause, any car hoisting rope or chain attached to the drum becomes slack.

22. *Car locking device.* No elevator shall be used for the carrying of safes or other material of a greater weight than the normal lifting power of such elevator, unless the machine is provided with special equipment and the car is equipped with an approved locking device which will hold it at any landing independent of the hoisting ropes while such safe or other material is being loaded or unloaded.

23. *Hand-power elevator safety devices.* In future installations every hand-power elevator (except sidewalk type elevators) with a rise of more than fifteen feet, shall be equipped with an approved safety device that will immediately stop and hold the car with a full load if the rope breaks, and with an approved automatic speed retarder and a hand-operated brake operating in both directions.

Grip hoists and elevators operated by gravity in both directions shall comply with the requirements for hand-power elevators.

24. *Escalators.* In future, every escalator installed shall be equipped with an approved safety device to prevent any accidental downward reversal and with an approved stopping device.

25. *Car construction.* In future installations the car and car frame of every power-driven elevator and of every hand-power elevator with a rise of more than thirty-five (35) feet shall be of incombustible materials; except that the platform may be of wood covered on the underside with incombustible materials. The car enclosure and flooring may be of hard wood. The car, car frame and enclosure of every hand-power elevator with a rise of thirty-five (35) feet or less may be constructed of wood.

26. *Passenger car enclosures.* In existing and future installations every passenger elevator car shall be fully enclosed on all sides not used for loading or unloading, and on the top, with substantial construction.

In future installations where grille work is used for the car enclosure, including the top, it shall be constructed with not more than one and one-half inch space between any two members; except that where straight bars not filled in with scroll work are used there shall be not more than one inch space between members. When the clearance between car and counterweight is less than two (2) inches, that part of the car enclosure opposite the counterweight runway shall be of solid construction or screened with not more than one-half ($\frac{1}{2}$) inch mesh of not lighter than No. 16 U. S. gauge wire, to a height of not less than six (6) feet six (6) inches.

In existing installations in factory buildings only, where the spaces exceed those specified for future installations, it shall be deemed satisfactory if the grille work is made safe by suitable screen or wire mesh fastened to the car enclosure.

27. *Emergency exit.* In future installations every power-driven passenger elevator car shall have a trap door in the top, of such a size as to afford easy egress for passengers, but not less than sixteen inches in least dimension nor less than four hundred square inches in area. When there is more than one elevator in a shaft and the vertical distance between any two consecutive shaft door openings exceeds thirty (30) feet, there shall be provided in addition to the trap door an emergency side exit to the adjacent car.

In existing installations not already provided with an emergency exit, a trap door as specified for future installations shall be provided; except that when the cross head or car top construction renders it impracticable to provide such trap door, this requirement may be waived by the superintendent of buildings, if egress, in case of emergency, is possible through shaft openings, or to an adjacent car.

28. *Freight car enclosure.* In existing and future installations in factory buildings only, every freight elevator car

shall be enclosed on all sides not used for loading or unloading, with substantial construction, to a height of five (5) feet six (6) inches, or to the cross head, when this is less than five (5) feet six (6) inches above the car platform.

In future installations, where an enclosure of open construction is used, the space between any two parallel members shall not exceed one inch.

29. *Freight elevator cover.* In existing and future installations in factory buildings only, every freight elevator car shall be provided with a substantial cover or grating constructed of not less than No. 8 U. S. gauge wire or its equivalent in strength, and of a mesh that will reject a one and one-half ($1\frac{1}{2}$) inch diameter ball. Sections of the cover or grating may be arranged to swing upward for handling long material, but such cover or grating shall be closed at all other times. In covers hereafter installed (except where car gates are provided) that part of the cover facing the entrances to the hoistway, extending the full width of the car, shall be hinged on a line not less than eight (8) inches nor more than twelve (12) inches back from the edge of the landing, and the hinged section shall be self-closing.

30. *Space between saddles and car.* In future installations there shall be not more than one and one-quarter inch, nor less than three-quarters of an inch space between the floor of the car and the floor saddles, and where the saddles project into the shaft the same shall be properly bevelled on the underside at an angle of not less than sixty degrees to the horizontal.

31. *Lights.* In existing and future installations the cars of all elevators shall be properly lighted at all times when in service.

32. *Guide rails.* In future installations, guide rails for both car and counterweights of all elevators (except dumb-waiters, and hand-power elevators with a rise of thirty-five feet or less) shall be of iron or steel. They shall be fastened to the sides of the shaft with wrought or cast iron brackets of such strength and design and so spaced that the guide rails and their fastenings shall be able to safely withstand the application of the safety when stopping a fully loaded car under test. For elevators requiring safeties, the guiding surfaces of the car guides shall be finished smooth and joints shall be tongued and grooved or dowed, and rails shall extend to the level of or above the overhead beams and shall be bottomed on a suitable support.

The weights of steel or iron guide rails shall be not less than given in the following table:

WEIGHT OF GUIDE RAILS PER LINEAL FOOT.

Total Weight of Car and Live Load, or Weight of Counterweight.	Weight of Car Guide Rails		Weight of Counterweight Guide Rails	
	With Guide Rail Safeties.	Without Guide Rail Safeties.	With Guide Rail Safeties	Without Guide Rail Safeties.
0- 4000 lbs.....	7½	7½	7½	6½
4001-15000 "	14	14	14	7½
15001-40000 "	30	30	30	7½

33. *Ropes.* In future installations, all elevators (except dumbwaiters) shall have not less than two ropes independently connected to the car and to each set of counterweights. In drum type machines, the lifting and counterweight ropes shall have at least one full turn of the rope on the drum when they have reached the limit of travel. Every rope hereafter used shall have a factor of safety of not less than six for freight elevators, and not less than eight for passenger elevators. The diameter of any hoist or counterweight rope hereafter installed (except for hand-power elevators and sidewalk type elevators) shall be not more than one-fortieth ($1/40$) of the diameter of any sheave or drum over which it passes. All ropes used in the operation of elevators shall be of steel, iron or marlin covered steel. Ropes of other material than metal may be used as hand ropes and brake ropes in hand-power elevators or as centering ropes in power-driven elevators with hand rope control. Where overhead machines are used equalizer arms will be permitted on the car and counterweights. Nothing in this rule shall prohibit the use of chains on sidewalk elevators instead of ropes.

34. *Auxiliary freight compartments.* In future installations no elevator shall be permitted to have attached above, below or on the side of the car a freight compartment or similar device.

In existing installations, entrances to freight compartments shall be protected by folding gates, as required for passenger elevators, and so arranged that the elevator cannot be operated until the gate is closed.

35. *Overhead gratings.* In every elevator shaft (except existing elevator shafts, dumbwaiter shafts or the shafts of sidewalk elevators outside the building line) immediately under the sheaves at the top of the shaft, or when the machine is located at the top of the shaft, at the level of the top of the machine beams, there shall be provided and placed a substantial grating of iron or steel capable of sustaining not less than seventy-five pounds per square foot. No two members of such grating shall be spaced more than one and one-half inches apart. When such

grating does not extend over the entire area of the shaft, the open edges shall be protected by substantial screened railings not less than three feet high. Every such grating shall extend at least two and one-half feet beyond the general contour of the sheaves or machinery. Deflecting sheaves extending below the machine level, or hoist and counterweight sheaves located at the sides of the shaft, shall be protected by gratings or cradles of a construction similar to that required for the gratings. Fireproof floor construction shall be accepted as the equivalent of the grating.

Nothing in this rule shall prevent the placing of a trap door in such a grating where other suitable access cannot be had.

Any grating hereafter placed in an existing elevator shaft shall conform to the requirements of this rule.

36. *Elevator pit.* In every elevator shaft hereafter constructed (except shafts for dumbwaiters, for sidewalk elevators and for hand-power elevators with a rise of less than thirty-five feet), the distance from the floor saddle of the lowest standing to the bottom of the pit shall not be less than four feet when the speed does not exceed two hundred and fifty feet per minute, not less than five feet when the speed exceeds two hundred and fifty but does not exceed four hundred feet per minute, and not less than six feet when the speed exceeds four hundred feet per minute, and in no case shall there be less than two feet in the clear between the bottom of the pit and the lowest point of the underside of the car floor framing when the car is at the lowest possible position. In the case of power-driven sidewalk type elevators, the clear space between the bottom of the pit and underside of the car floor structure shall be not less than six inches. The pits herein required at the bottom of elevator shafts shall not be used for piping, machinery, or for any purpose not required for the elevator equipment; but this shall not prevent the encroachment upon such pits, in the case of new elevators installed in existing buildings, of the foundations of bearing walls and columns to an extent not exceeding twenty-five per cent. of the area of the pit.

37. *Overhead clearance for cars.* For all elevator shafts hereafter installed (except shafts for sidewalk type elevators) there shall be provided a sufficient clear space, when the car is at the top landing, to allow a run-by of not less than two feet for elevators having a speed not exceeding one hundred feet per minute, nor less than three feet for elevators having a speed exceeding one hundred feet per minute and not exceeding three hundred and fifty feet per minute, and not less than five feet for elevators having a speed exceeding three hundred and fifty feet per minute.

38. *Overhead clearance for counterweights.* In future installations there shall be provided in all elevator shafts a sufficient clear space when the car has completely compressed the pit buffers to allow of a run-by of the counterweight of not less than two (2) feet for traction and hydraulic type elevators, and not less than three (3) feet for drum type elevators.

39. *Machinery room.* All parts of the elevator machinery for power-driven elevators shall be properly enclosed, and suitable light provided. In buildings hereafter erected free and safe access must be provided to all parts of the elevator machinery and there shall be not less than twelve (12) inches clearance at limit stop devices on machine and outboard bearings of motor. In future installations in existing buildings, such clearance shall be provided as deemed necessary by the superintendent of buildings, but need not exceed that specified for buildings hereafter erected. When the machine is located at the bottom of the shaft, it shall be protected with a substantial pit pan.

40. *Speed.* The speed of all power-driven elevators shall not exceed seven hundred feet per minute.

41. *Buffers.* In future installations for all power-driven elevators (except sidewalk type elevators) there shall be provided substantial spring buffers, pneumatic buffers, or oil buffers for the car and counterweights, provided that for the cars and counterweights of all elevators having speeds of more than three hundred and fifty feet per minute, substantial oil buffers shall be installed.

42. *Supporting beams.* Supporting beams hereafter installed for elevator sheaves or machinery (except in dumb-waiter shafts) shall be of iron or steel.

43. *Determination of questions.* When any existing installation for either passenger or freight service is deemed by the Superintendent of Buildings to be in an unsafe or dangerous condition it shall be made safe in such manner as he shall prescribe, and all defective parts necessary of replacement shall conform, in so far as possible, with the rules governing future installations.

Where there are practical difficulties in the way of carrying out the strict letter of the foregoing rules, the superintendent of buildings shall have power to vary their provisions so that the spirit of the law shall be observed and public safety secured and substantial justice done, provided that whenever such variations are granted by a superintendent of buildings it shall be indorsed in writing upon the permit over the signature of such superintendent.

FIRE RETARDING CONSTRUCTION

RULES ADOPTED BY THE BOARD OF STANDARDS
AND APPEALS AUGUST 30, 1917; EFFECTIVE
SEPTEMBER 26, 1917; AS AMENDED NOVEMBER
1, 1917.

1. *Fire retarding materials, for garages, motor vehicle repair shops and oil selling stations.* In garages, motor vehicle repair shops and oil selling stations any material or form of construction shall be deemed fire-retarding within the meaning of §73, subdivision 3, of the building code, that resists the action of flame and heat when subjected to a continuous fire for one hour at an average temperature of seventeen hundred (1700) degrees Fahrenheit without the passage of flame, and with a maximum temperature rise to four hundred (400) degrees Fahrenheit on the side away from the fire. The point at which the temperature of transmitted heat is measured shall be protected from external air and weather conditions.

When the test specimen is in the form of partition construction, the area under test shall be not less than one hundred (100) square feet and the least dimension shall be not less than nine (9) feet. When in the form of floor construction, the area under test shall be not less than two hundred (200) square feet and the least dimension shall be not less than fourteen (14) feet.

During the fire, the floor construction shall support the live load for which it is designed, and after the fire shall safely sustain twice the designed live load with a maximum deflection of not more than one two-hundredth ($1/200$) part of the span.

2. *Wood joisted floor construction.* Wood joisted floor construction shall be accepted as fire-retarding construction in non-fireproof buildings used as garages, motor vehicle repair shops or oil selling stations when the beams are protected on the upper and under sides with the fire-retarding materials specified in rules for floor and ceiling coverings.

3. *Floor covering.* Any one of the following forms of construction shall be accepted as fire-retarding for the covering of the upper sides of wood floor beams in joisted floor construction in non-fireproof buildings used as garages, motor vehicle repair shops or oil selling stations:

(a) Seven-eighths ($7/8$) inch wood underflooring protected with a membrane of two-ply waterproofing covered with not less than two and one-half ($2\frac{1}{2}$) inches of $1:2\frac{1}{2}:5$ concrete or better, reinforced with not less than one-fourth ($1/4$) of one (1) per cent. of steel mesh.

(b) Two and one-half ($2\frac{1}{2}$) inches of 1:2:4 concrete applied directly to the top of the joists, with or without temporary support, reinforced with not less than one-fourth of one per cent. steel rods, mesh or steel lath, and having the tops of the joists coated with approved waterproof paint or protected by tar paper on the top and on the sides for a distance of three inches from the top. (Amendment, Nov. 1, 1917.)

4. *Ceiling covering.* Any one of the following forms of construction shall be accepted as fire-retarding for the covering of the undersides of wood floor beams in joisted floor construction in non-fireproof buildings used as garages, motor vehicle repair shops or oil selling stations:

(a) One-half ($\frac{1}{2}$) inch plaster boards with pointed joints covered with No. 26 U. S. gauge sheet metal with one (1) inch lapped seams nailed to the wood beams when spaced not more than sixteen (16) inches on centers, or nailed to furring strips when the floor beams are spaced more than sixteen (16) inches on centers;

(b) Two thicknesses of one-quarter ($\frac{1}{4}$) inch asbestos boards laid with tight staggered joints and nailed to the beams, when spaced not more than sixteen (16) inches on centers, or nailed to furring strips when the floor beams are more than sixteen (16) inches on centers;

(c) Metal lath weighing not less than three pounds per square yard, attached to furring strips and plastered with Portland cement mortar at least three-quarters ($\frac{3}{4}$) inch thick.

5. *Attachment to ceiling.* Fire-retarding ceilings in non-fireproof buildings used as garages, motor vehicle repair shops or oil selling stations shall be attached to wood floor beams and girders in such manner as to maintain an air space between the wood beams, and all beams shall be seasoned before applying the protective coat.

6. *Openings in fire-retarding floors.* Pipes or conduits which pass through floors shall be fitted with metal thimbles and made watertight for a height of three (3) inches above the floor.

7. *Columns.* All structural posts and columns in non-fireproof buildings required to be fire-retarded shall be protected with the fire-retarding materials specified for ceiling coverings in these rules, or with any of the materials accepted in fireproof construction; except that an air space shall not be required around steel or cast iron columns.

When necessary for protection against mechanical injury, the fire-retarding protection on columns shall be jacketed to a height of five (5) feet from the ground with No. 4 U. S. gauge metal.

8. *Girders.* All girders in non-fireproof buildings required to be fire-retarded shall be protected with the fire-retarding materials specified for ceiling coverings in these rules, or with any of the materials acceptable in fireproof construction; except that an air space need not be provided around steel girders.

9. *Shaft enclosures.* Existing stairways and vertical shafts in non-fireproof business buildings hereafter converted to be used as garages, motor vehicle repair shops or oil selling stations shall be enclosed in fire-retarding partitions continued through the non-fireproof floor construction, and when unfilled wood stud partitions are used, the space between the floor beams shall be fire-stopped with incombustible materials. All openings in such partitions shall be protected with accepted metal-covered fire doors or windows. Wherever necessary for protection against mechanical injury, the partition shall be jacketed to a height of five (5) feet on the garage side with No. 4 U. S. gauge metal. Any one of the following forms of partitions shall be accepted for the enclosure:

(a) Two by four inch wood studs, spaced not more than sixteen (16) inches on centers, covered both sides with metal lath weighing not less than three pounds per square yard, attached to furring strips and plastered with Portland cement mortar at least three-quarters ($\frac{3}{4}$) of an inch thick;

(b) Two by four inch wood studs spaced not more than sixteen (16) inches on centers, covered both sides with seven-eighths ($\frac{7}{8}$) inch wood sheathing, one-half ($\frac{1}{2}$) inch plaster boards with pointed joints and No. 26 U. S. gauge sheet metal with one inch lapped seams;

(c) Two by four inch wood studs spaced not more than sixteen (16) inches on centers, covered both sides with seven-eighths ($\frac{7}{8}$) inch wood sheathing, two thicknesses of one-quarter ($\frac{1}{4}$) inch asbestos boards laid with tight staggered joints and jacketed with No. 16 U. S. gauge metal on the garage side to a height of five (5) feet;

(d) Two by four inch wood studs spaced not more than sixteen (16) inches on centers, filled in solidly between the studs with four inches of approved waterproof materials and covered on both sides with No. 26 U. S. gauge metal;

(e) Existing wood stud, lath and plaster partitions covered on the garage side with No. 26 U. S. gauge sheet metal with one-inch lapped seams.

EXIT RULES [REVOLVING DOORS]

ADOPTED, UNDER CAL. NO. 842-17-S. SEPT. 6, 1917;
AMENDED, UNDER CAL. NO. 41-19-S, FEB. 11, 1919;
UNDER CAL. NO. 412-20-S, JULY 8, 1920, AND UNDER
CAL. NO. 41-19-S, JAN. 8, 1924.

Rule 1. *Classification of Revolving Doors.* For the purpose of these rules revolving doors shall be classified as follows:

(a) *Type A.* "Automatic Collapsible" in which the individual wings are maintained in the normal revolving position, but which doors are so designed and constructed that in the event of excessive pressure being exerted on the wings, the braces or other devices which hold the wings in their normal position shall be disconnected, thereby permitting easy egress through the vestibule at least equivalent to that provided by a pair of swinging doors having the same width as the vestibule opening.

No revolving doors shall be included in this classification if the pressure necessary to collapse any wing exceeds one hundred and fifty (150) pounds when exerted at a point three (3) inches from the outer edge of the wing, and three (3) feet six (6) inches above the floor, but shall be classified under type B.

(b) *Type B.* "Rigid Brace" in which the individual wings are maintained in the normal revolving position by rigid braces or similar devices, but which doors are so designed and constructed that the braces or other devices which hold the wings in their normal position may be manually released by simple mechanical means, thereby permitting the individual wings to be manually collapsed and so arranged as to permit free egress through the vestibule.

Rule 2. *Revolving Doors. Prohibitions.* Revolving doors shall be prohibited in exit doorways from assembly halls, asylums, auditoriums, churches, dance halls, hospitals, motion picture theatres, schools, theatres, or from any room or space within a building where more than three hundred (300) persons congregate for purposes of amusement, instruction or worship; except that the main entrance doorway to a hospital or sanitarium may be equipped with either type A or B revolving doors when supplemented by swinging doors not less than three (3) feet eight (8) inches wide at this or other paths of egress.

Rule 3. *Revolving Doors—Department Stores.* Type A revolving doors hereafter installed shall be accepted in exit doorways from department stores provided doorways aggregating at least fifty (50) per cent of the legal required width, equipped with swinging doors, are installed, and one or more such outwardly swinging doors are located immediately adjacent to each revolving door. Such swinging

doors need not be equipped with handles on the outside, and shall have a minimum clear width of three (3) feet.

Rule 4. *Existing Revolving Doors.* Except where otherwise prohibited existing Type A revolving doors may be retained as required means of exit in doorways from buildings.

Except where otherwise prohibited existing Type B revolving doors may also be retained as required means of exit in buildings, when, in the opinion of the administrative official having jurisdiction, no dangerous exit condition exists. If, however, such dangerous exit condition is deemed by him to exist, they shall be either replaced by Type A revolving doors, or supplemented by at least one swinging door not less than three (3) feet wide located adjacent to the revolving door, as the administrative official may direct.

Rule 5. *New Revolving Doors.* In buildings other than assembly halls, asylums, auditoriums, churches, dance halls, department stores, hospitals, motion picture theatres, schools and theatres, coming under the exit provisions of the building code, doorways serving as required exits may hereafter be equipped with Type A revolving doors or with Type B revolving doors, provided such revolving doors, not exceeding three in a unit, shall have an outwardly swinging door at least three (3) feet wide located immediately adjacent thereto.

Rule 6. *Revolving Doors—Subway Entrances.* Required exit doorways from buildings which serve in addition as a means of subway entrance and exit may be equipped with type A revolving doors, provided doorways of the legal required width equipped with swinging doors are also installed and one or more such outwardly swinging doors are located adjacent to each revolving door.

Rule 7. *Saving Clause.* But nothing in these rules shall prevent the installation on the exit doors from a bank, trust company, jewelry store, or any store devoted to a single similar use, of a locking device which may be operated by electricity or other means from the interior of the building, to be used only in an emergency.

FACTORY EXIT RULES ADOPTED

FEBRUARY 23, 1927

64-27-SR

STANDARD FACTORY EXITS

Section 1—Fire Escapes.

Rule 1. In any building erected prior to October 1, 1913, now occupied or to be occupied as a factory, more than five stores in height and not exceeding nine stories in height, nor in any case more than 90 ft. from curb level to top floor level, one of the required means of exit or escape under Section 271-1 of the Labor Law may consist of an outside fire escape, provided that:

(a) Any such fire escape hereafter erected shall comply with all the provisions of Section 273, labor law, and in addition thereto:

(1) The balconies and stairs shall be protected on the outside by substantial railings to a height of at least 4 ft. 6 in., measured from floor of balcony or center of stair tread, constructed of bars at least one-half ($\frac{1}{2}$) inch in diameter, spaced not more than six (6) inches on centers, or of substantial grille work, or of screening not less than No. 10 U. S. gauge wire with not more than one and one-half ($1\frac{1}{2}$) inch mesh, all rigidly braced;

(2) When there is safe egress from the roof of the building to any adjoining structure, the fire escape stairway shall continue to the roof, and if there be no safe means of egress, a gooseneck ladder shall be provided from the top story balcony to the roof.

(b) Any such fire escape erected prior to October 1, 1913 shall conform in every respect with the requirements of paragraph (a) of this rule, except that balconies may be not less than 3 feet in width; the connecting stairs not less than 20 inches in width, and placed at an angle not exceeding 60 degrees if the building is not over six stories in height, otherwise at an angle of 45 degrees.

Rule 2. In any building erected prior to October 1, 1913, now occupied or to be occupied as a factory, five stories or less in height, one of the required means of exit under Section 271 of the Labor Law may consist of an outside iron fire escape, provided that:

(a) Any such fire escape hereafter erected shall comply with all the provisions of Section 273, Labor Law.

(b) Existing fire escapes shall comply with all the provisions of Section 274, Labor Law and in addition thereto

(1) The balconies shall be not less than 3 feet in width.

(2) The rails around balconies and well holes and on stairways shall be not less than 3 feet in height.

(3) Passageways on the balconies shall be not less than 14 inches in the clear.

(4) At least one opening to each balcony shall be a single fireproof casement door at least 2 feet wide and at least 6 feet in height, except that where the distance between the sill and lintel will not permit of an opening 6 feet in height, a casement door not less than 4 ft. 6 in. in height will be permitted.

Rule 3. The single fireproof casement doors leading to all fire escape balconies shall open out and shall be self-closing. An easily operated door lock with knobs on both sides of the door shall be provided.

Such fire doors may be at window sill level if fixed iron steps at least two feet wide with risers not exceeding eight (8) inches, and treads not less than eight (8) inches are provided on the inside from floor level to sills properly secured.

Rule 4. (a) Any such fire escape erected subsequently to October 1, 1913, and prior to these rules taking effect, unless previously accepted as one of the required means of exit or escape by the administrative official having jurisdiction, shall conform in every respect to the provisions of these rules.

(b) A fire escape shall not hereafter be accepted as constituting one of the required means of exit or escape under Section 271-1 of the Labor Law, in any building erected prior to October 1, 1913, now occupied or to be occupied as a factory, exceeding nine stories in height, or more than 90 feet from curb level to top floor level.

Rule 5. All fire escapes shall be maintained structurally safe, properly painted, and kept clear of all obstructions.

Section 2—Enclosure of Factory Stairways.

Rule 6. Except as herein provided, in all factory buildings five stories or less in height, erected prior to October 1, 1913, in which there are more than twenty-five persons employed above the second story, all interior stairways, serving as required means of exit, and the landings, platforms and passageways connected therewith, shall be enclosed on all sides by partitions of fire-resisting material extending continuously from the lowest point of the stairway in accordance with the following schedule:

Number of stories	Contents combustible, no sprinkler	Contents non-combustible, no sprinkler	Contents combustible, and sprinkler	Contents non-combustible, and sprinkler
Three	Stairways Enclosed			
Four	Stairways Enclosed	Stairways Enclosed		
Five	Stairways Enclosed	Stairways Enclosed	Stairways Enclosed	

The term "contents" as used above means articles, goods, wares and merchandise, packed, stored, manufactured or in the process of manufacture.

The term "combustible" as used above means articles, goods, wares or merchandise which will burn or support combustion.

The term "sprinkler" as used above means an adequate automatic sprinkler equipment installed and maintained in good working order on each floor.

The term "story" as used above means that part of a building between any floor and the floor or roof next above;—the first story is that part of a building which is more than 50 per cent above the floor below and the floor next above the curb or average grade level.

Where the stairway extends to the top floor of the building, such partitions shall extend to the under side of the roof boarding. That portion of the under side of the roof beams within the stair enclosure shall be covered with fire resisting material, except in buildings with roofs of non-combustible material, in which case the partitions may stop at the under side of the roof.

Where the stairway is required to extend to the roof, the enclosure shall be so built as to form a bulkhead. The enclosure shall be ventilated by a skylight in the roof with louvres or ventilators, or exterior windows with ventilating sections at the top floor.

All openings in such partitions shall be provided with approved self-closing fire doors, except where such openings are in the exterior wall of the building.

The bottom of the enclosure shall be of fireproof material at least four inches thick unless the partition extends to the cellar bottom.

A horizontal exit, as defined in section 267 of the Labor Law, will be accepted as a compliance with this rule when both sides of the fire wall or walls are occupied on any factory floor by the same occupant.

Rule 7. Where there are occupancies on any story or part of a story involving the storage or use below the top story of the following materials and exceeding the amount specified, and there are more than 5 persons employed at manufacturing above such occupancy, the interior stairway serving as required means of egress shall be enclosed on that story with fire resisting material from floor to under side of floor above, including any exposed stair soffits, landings and passageways; openings shall be provided with approved self-closing fire doors.

Nitrocellulose in any shape or form, 10 lbs.

Volatile inflammable oils, 1 gal.

Volatile inflammable mixtures, 5 gals.

Combustible mixtures, 10 gals.

Paints, varnishes and lacquers, 10 gals.

Upholstering or mattresses, manufacturing or repairing.

Cotton, rag and paper sorting, 1 ton.

Paper box manufacturing.

Restaurants and lunch rooms with cooking (not including tea, coffee or similar beverages).

The Board shall rule upon new occupancies as they arise and pass upon points under dispute.

When more than two stories are to be segregated, as above, the entire stairway shall be enclosed in fire-resisting material where there are more than 5 persons employed at manufacturing above the first story.

Rule 8. Required Exits and Enclosures of Stairways in Two-story Factory Buildings.

1. Required Exits.—In every two-story factory building erected prior to October 1, 1913, in which more than five persons are employed at manufacturing, there shall be provided from each story at least two means of exit or escape from fire remote from each other, one of which from every floor above or below grade shall lead to or open on an interior stairway which shall be enclosed, as hereinafter provided, or on an exterior enclosed stairway. The other may lead to such a stairway, or to a horizontal or grade exit, or to an exterior screened stairway, or to a fire escape conforming to section 273, Labor Law, or rule 2 of these rules. Except that exit door shall be a fire door, with substantial steps to the sills properly secured when sill is more than 8 inches above the floor level; and where there is no safe egress from the roof, a gooseneck ladder shall be provided from top balcony to the roof, except on the front of buildings.

Unobstructed egress from the foot of the fire escape or exterior screened stairway shall be as required by section 273, Labor Law, or to open adjoining yard with egress to the street. No point on any floor of such building shall be

more than one hundred and fifty (150) feet distant from such an exit.

Rule 9. Enclosure of Stairways.—In two-story buildings where there are occupancies on any story or part of a story involving the storage or use below the top story of any of the materials exceeding the amounts specified in Rule 7 and there are more than 5 persons employed at manufacturing above such occupancy, all interior stairways serving as required means of exit shall be enclosed from the lowest point of such stairway to the ceiling of the first floor by partitions of fire-resisting material, unless the building is provided with a wet sprinkler system, in which case such enclosure of stairways shall not be required. Such enclosures shall lead directly to a door opening outwardly to a street or road, or an open area affording unobstructed passage to a street or road. All openings in such enclosure shall be provided with fire doors equipped with self-closing devices.

All reference herein to "Enclosure of Stairways" shall be considered as applying only to required stairways.

Rule 10. Storage of Combustible Material Within Factory Stairway Enclosures.

In all factory buildings no articles or wares of any nature shall be kept or stored inside the limits of any stairway enclosure or unenclosed stairway, or on the landings, platforms or passageways connected therewith.

Section 3—Safe Egress from Roofs of Factory Buildings.

Rule 11. Interior stairways serving as required means of exit in factory buildings erected after October 1, 1913, and not exceeding five stories in height, and in buildings erected before October 1, 1913, now occupied or to be occupied as a factory, shall not be required to extend to the roof where there is no safe egress from the roof, under Sections 270, 271 and 272, Labor Law.

(a) When the roofs, or the top of the parapet wall of an adjoining building are more than eight feet below or more than five feet above the top of the parapet wall of the building in question, and there is no outside party wall fire escape, party wall exterior screened stairway, party wall balconies or bridges, or where any outside exits do not connect to adjoining buildings at roof level, or where there are no unbarred window openings five feet above the roof or parapet wall of the building in question.

(b) When the roof of the building in question has a pitch exceeding one foot in six feet of horizontal run.

Rule 12. (a) When there is no safe egress from the roof, as above described, there shall be in all cases at least a double-rung ladder at the top of the interior stairway, and within the interior stairway enclosure when stairway is en-

closed. Such ladder shall be at least 18 inches in width and shall be properly secured at top and bottom. The ladder shall lead to a scuttle opening not less than 2 feet by 3 feet or be of such additional area as may be required to provide ample head room. The scuttle cover shall be hinged and of light weight construction, or be counter-balanced. An easily operated hook may be provided on scuttle cover.

(b) Where the stair bulkhead door opens within 10 feet from the open edge of the roof, an iron railing properly braced at least 3 feet high and at least 10 feet long shall be provided at the edge of roof.

SUBSTANDARD FACTORY EXITS

Section 4—Fire Escapes

Rule 13. When in addition to the required exits from any factory or factory building, there exist other means of egress which are not entirely in accordance with the requirements of the Labor Law and the Rules of the Board of Standards and Appeals, such means of egress may be retained under the following conditions:

(a) Fire Escapes.—All substandard fire escapes on factory buildings shall be maintained structurally safe, properly painted, and with the openings leading thereto, kept in good repair.

In lieu of counter-balanced stairway, a drop ladder in guides with a back-drop gravity hook may be provided.

The drop ladder shall be of sufficient length to reach from the lowest balcony to the ground or safe landing place, with a passageway opening cut in the balcony rail, which rail shall be properly braced.

When such substandard fire escapes are located in a court, side or rear of a building, proper egress to a point of safety shall be provided, either to open adjoining yards, or the lowest balcony may be connected to an adjoining fire escape, exterior stairway, to the roof of adjoining extensions, or other means of egress satisfactory to the authorities having jurisdiction.

Substandard fire escapes shall be kept clear of all obstructions, shall not be used for fire drills, and shall not be considered as a basis for increase in occupancy.

Section 5—Stairways and Bridges

Rule 14—Interior Stairways.—All interior stairways not conforming to the requirements of the Labor Law or rules of the Board of Standards and Appeals may be retained, provided that egress to same is maintained unobstructed, halls are properly lighted, and all landings, passageways,

etc., are maintained free and unobstructed. An easily operated panic bolt or other similar device may be installed at street exit door.

Rule 15.—Exterior Screened Stairways.—Exterior screened stairways not serving as a required means of egress shall be maintained structurally safe and properly painted, exits thereto and all platforms and passageways thereof shall be maintained unobstructed, and egress from termination shall be provided as required for substandard fire escapes in subdivision a.

Rule 16.—Horizontal Bridges.—Horizontal bridges and party wall balconies between buildings shall be maintained structurally safe and properly painted, and access thereto and all passageways thereof shall be maintained unobstructed.

Rule 17. No sign of any character shall be placed at openings leading to these substandard exits.

METHOD FOR TESTS FOR ANTI-SIPHON TRAPS OR FIXTURES

ADOPTED BY THE BOARD OF STANDARDS AND APPEALS, FEBRUARY 11, 1919

Resolved. That the following be and it hereby is adopted by the board of standards and appeals as the method prescribed for tests for anti-siphon traps or fixtures, which must be successfully passed before such traps or fixtures shall be approved under Rule 99, Rules for Plumbing and Drainage:

Instructions.

1. The entire cost and responsibility for the installation of the necessary equipment for such test shall be borne by the person or firm submitting the appliance.

2. Such person or firm shall also furnish the board, together with the application for test, the following material and information:

(a) A stock trap of the size and design to be tested, which shall be of the P and S type and shall be of lead or brass, cast in one piece, and without interior partitions or mechanism.

(b) A similar trap cut in half.

(c) A similar trap, to be used in the test, provided with glass observation ports of sufficient size to permit clear observation of the action occurring within the trap during test, and such observation ports shall be so located that the amount of water seal remaining after each test can be readily observed.

(d) An affidavit that the three traps submitted are regular stock traps.

(e) A list of all cities, towns or municipalities where such trap has been officially approved for use without back venting.

The testing apparatus shall be located within the City of New York, and in a place, building or structure to meet the approval of the testing authorities. Such apparatus shall be so located that every part is easily accessible for inspection.

Apparatus.

The apparatus shall consist of the following:

A tank of not less than fifty nor more than one hundred and fifty gallons capacity, with adequate water supply for refilling same during the test.

A vertical wrought iron or steel pipe line fifty feet long, connected to the underside of the tank, and of the same internal diameter as the trap to be tested.

A quick-opening valve, located ten feet below the under side of the tank.

A TY fitting located two feet below the quick-opening valve, with horizontal branch pipe connected thereto of the same diameter as the vertical line, this branch line not to exceed two feet in length, with a pitch towards the vertical line of two inches to the foot, and the trap to be tested shall be connected to this horizontal branch pipe.

A wash basin, or fixture answering the same purpose, which can be conveniently connected or disconnected from the inlet side of the trap.

The test shall be conducted as follows:

For Anti-Siphon Qualities.

For the purpose of determining the efficiency of the trap, the tank shall be completely filled, a water seal established in the trap; and:—

The quick-opening valve shall be opened for five seconds, then closed for five seconds, and this alternating process repeated five times.

The quick-opening valve shall be opened and the entire contents of the tank discharged at one time.

The wash basin shall be connected to the trap, filled with water, and both wash basin and tank discharged simultaneously. The quick-opening valve shall be kept open until the entire contents of the tank has been discharged.

The trap shall be disconnected and a bridge of solid soap formed across the lower half of the discharge end of the trap, so as to effectually block one-half of the clear water way, and the foregoing tests repeated.

Each operation shall be repeated several times, if desired by the testing authorities.

For Self-Cleansing Qualities.

For the purpose of determining its self-cleansing qualities, the trap shall be filled with sand and the wash basin filled with water and allowed to discharge. A similar operation shall be repeated with tea leaves, coffee grounds, sawdust and grated soap.

For Service Qualities.

The service qualities of the trap may be tested as follows:

A trap which has been in actual constant use for a period of not less than one year shall be removed under the supervision of a representative of the testing authorities, split into two halves, and submitted for inspection, for the purpose of determining whether sediment or coating of

grease or other foreign matter has accumulated in the trap during service conditions.

Approval.

An approval shall not be issued for any anti-siphon trap which has been subjected to the foregoing tests unless the trap has:

1. Maintained its water seal throughout the test.
2. Been successfully scoured of any foreign substances placed in the trap, when water has been discharged through same.
3. Upon inspection, after service, shown no excessive accumulation of grease or other foreign substance.

Deep Seal Siphon-Jet Fixtures, or Anti-Siphon Fixtures, Instructions: Applicants for approval of deep seal siphon-jet or anti-siphon fixtures shall submit the following with their application:

- (a) A stock fixture of the size and design to be tested.
- (b) A similar fixture, cut in half.
- (c) A similar fixture, to be used in the test, provided with glass observation ports of sufficient size to permit clear observation of the action occurring within the fixture during test, and such observation ports shall be so located that the amount of water seal remaining after each test can be readily observed.
- (d) An affidavit that the three fixtures submitted are regular stock fixtures.

Apparatus.

The apparatus shall be similar to that required for anti-siphon traps, except that vertical and horizontal pipes shall have an internal diameter of three inches for testing slop sinks and four inches for testing water closets; tank shall have a capacity of not less than one hundred gallons and the fixture shall be provided with its usual water supply so that the same may be flushed when required.

Test.

For the purpose of determining the efficiency of the fixture to maintain a water seal, it shall be tested in a manner similar to that prescribed for anti-siphon traps, except that no soap bridge need be provided at the outlet.

USE OF HYDRATED LIME IN CONCRETE

ADOPTED BY THE BOARD OF STANDARDS AND
APPEALS, APRIL 19, 1920.

The use of hydrated lime in all classes of concrete construction shall not be prohibited when used in accordance with the conditions hereinafter set forth.

The hydrated lime shall conform with the standard specifications for this material which have been adopted by the American Society for Testing Materials.

The maximum amount of hydrated lime which may be used shall conform with the following table, all weights given being the amount of lime which may be incorporated for each ninety-five pound bag of Portland cement.

1-1½-3 Mix, 4 pounds of hydrated lime per bag of cement.

1-2-4 Mix, 5 pounds of hydrated lime per bag of cement.

1-2½-5 Mix, 6 pounds of hydrated lime per bag of cement.

For hand mixed concrete, the hydrated lime and Portland cement shall be well mixed while dry.

Hydrated lime shall not be used in concrete which is to be deposited under water.

RULES COVERING THE DESIGN OF REINFORCED CONCRETE FLAT SLABS

ADOPTED BY THE BOARD OF STANDARDS AND APPEALS, JULY 8, 1920.

1. *Application.* The rules governing the design of reinforced concrete flat slabs shall apply to such floors and roofs, consisting of three or more rows of slabs, without beams or girders, supported on columns, the construction being continuous over the columns and forming with them a monolithic structure.

2. *Compliance with building code.* In the design of reinforced concrete flat slabs, the provisions of Article 16 of the building code shall govern with respect to such matters as are specified therein.

3. *Assumptions.* In calculations for the strength of reinforced concrete flat slabs, the following assumptions shall be made:

(a) A plane section before bending remains plane after bending;

(b) The modulus of elasticity of concrete in compression within the allowable working stresses is constant;

(c) The adhesion between concrete and reinforcement is perfect;

(d) The tensile strength of concrete is nil;

(e) Initial stress in the reinforcement due to contraction or expansion in the concrete is negligible.

4. *Stresses.* (a) The allowable unit shear in reinforced concrete flat slabs on the bid section around the perimeter of the column capital shall not exceed one hundred twenty (120) pounds per square inch; and the allowable unit shearing stress on the bid section around the perimeter of the drop shall not exceed sixty (60) pounds per square inch, provided that the reinforcement is so arranged or anchored that the stress may be fully developed for both positive and negative moments.

(b) The extreme fibre stress to be used in concrete in compressions at the column head section shall not exceed seven hundred fifty (750) pounds per square inch.

5. *Columns.* For columns supporting reinforced concrete flat slabs, the least dimension of any column shall be not less than one-fifteenth ($1/15$) of the average span of any slabs supported by the columns; but in no case shall such least dimension of any interior column supporting a floor or roof be less than sixteen (16) inches when round,

nor fourteen (14) inches when square; nor shall the least dimension of any exterior column be less than fourteen (14) inches.

6. *Column capital.* Every reinforced concrete column supporting a flat slab shall be provided with a capital whose diameter is not less than 0.225 of the average span of any slabs supported by it. Such diameter shall be measured where the vertical thickness of the capital is at least one and one-half ($1\frac{1}{2}$) inches, and shall be the diameter of the inscribed circle in that horizontal plane. The slope of the capital considered effective below the point where its diameter is measured shall nowhere make an angle with the vertical of more than forty-five (45) degrees. In case a cap of less dimensions than hereinafter described as a drop, is placed above the column capital, the part of this cap enclosed within the lines of the column capital extended upward to the bottom of the slab or drop at the slope of forty-five (45) degrees may be considered as part of the column capital in determining the diameter for design purposes.

7. *Drop.* When a reinforced concrete flat slab is thicker in that portion adjacent to or surrounding the column, the thickened portion shall be known as a drop. The width of such drop when used, shall be determined by the shearing stress in the slab around the perimeter of the drop, but in no case shall the width be less than 0.33 of the average span of any slabs of which it forms a part. In computing the thickness of drop required by the negative moment on the column head section, the width of the drop only shall be considered as effective in resisting the compressive stress, but in no case shall the thickness of such drops be less than 0.33 of the thickness of the slab. Where drops are used over interior columns, corresponding drops shall be employed over exterior columns and shall extend to the one-sixth ($1/6$) point of the panel from the center of the column.

8. *Slab thickness.* The thickness of a reinforced concrete flat slab shall be not less than that derived by the formulae $t = 0.024 L \sqrt{V w} + 1\frac{1}{2}$ for slabs without drops, and $t = 0.02 L \sqrt{V w} + 1$ for slabs with drops, in which it is the thickness of the slab in inches, L is the average span of the slab in feet, and w is the total live and dead load in pounds per square foot; but in no case shall this thickness be less than one-thirty-second ($1/32$) of the average span of the slab for floors, nor less than one-fortieth ($1/40$) of the average span of the slab for roofs, nor less than six (6) inches for floors nor less than five (5) inches for roofs.

9. *Reinforcement.* (a) In the calculation of moments at any section, all the reinforcing bars which cross that sec-

tion may be used, provided that such bars extend far enough on each side of such section to develop the full amount of the stress at that section. The effective area of the reinforcement at any moment section shall be the sectional area of the bars crossing such section multiplied by the sine of the angle of such bars with the plane of the section. The distribution of the reinforcement of the several bands shall be arranged to fully provide for the intermediate moments at any section.

(b) Splices in bars may be made wherever convenient but preferably at points of minimum stress. The length of any splice shall be not less than eighty (80) bar diameters and in no case less than two (2) feet. The splicing of adjacent bars shall be avoided as far as possible. Slab bars which are lapped over the column, the sectional area of both being included in the calculation for negative moment, shall extend to the lines of inflection beyond the column center.

(c) When the reinforcement is arranged in bands, at least fifty (50) per cent. of the bars in any band shall be of a length not less than the distance center to center of columns measured rectangularly and diagonally; no bars used as positive reinforcement shall be of a length less than half ($\frac{1}{2}$) the panel length plus forty (40) bar diameters for cross bands, or less than seven-tenths ($\frac{7}{10}$) of the panel length plus forty (40) bar diameters for diagonal bands and no bars used as negative reinforcement shall be of a length less than half ($\frac{1}{2}$) the panel length. All reinforcement framing perpendicular to the wall in exterior panels shall extend to the outer edge of the panel and shall be hooked or otherwise anchored.

(d) Adequate means shall be provided for properly maintaining all slab reinforcements in the position assumed by the computations.

10. *Line of inflection.* In the design of reinforced concrete flat slab construction, for the purpose of making calculations of the bending moments at sections other than defined in these rules, the line of inflection shall be considered as being located, one-quarter ($\frac{1}{4}$) the distance, center to center, of columns, rectangularly and diagonally, from center of columns for panels without drops, and three-tenths ($\frac{3}{10}$) of such distance for panels with drops.

11. *Moment sections.* For the purpose of design of reinforced concrete flat slabs, that portion of the section across a panel, along a line midway between columns, which lies within the middle two quarters of the width of the panel shall be known as the inner section, and those portions of the section in the two outer quarters of the width of the panel shall be known as the outer sections. Of the section

which follows a panel edge from column to column and which includes the quarter perimeters of the edges of the column capitals, that portion within the middle two quarters of the panel width shall be known as the mid section and the two remaining portions, each having a projected width equal to one-quarter of the panel width, shall be known as the column head sections.

12. *Bending moments.* In the design of reinforced concrete flat slabs the following provisions with respect to bending moments shall be observed. In the moment expressions used:

W is the total dead and live load on the panel under consideration, including the weight of drop whether a square, rectangle or parallelogram;

W_1 is the total live load on the panel under consideration;

L is the length of the side of a square panel center to center of columns; or the average span of a rectangular panel which is the mean length of the two sides;

n is the ratio of the greater to the less dimension of the panel;

h is the unsupported length of a column in inches, measured from top of slab to base of capital;

I is the moment of inertia of the reinforced concrete column section.

A. *Interior square panels.* The numerical sum of the positive and negative moments shall be not less than $1/17$ W L. A variation of plus or minus five (5) per cent. shall be permitted in the expression for the moment on any section, but in no case shall the sum of the negative moments be less than sixty-six (66) per cent. of the total moment, nor the sum of the positive moments be less than thirty-four (34) per cent. of the total moment for slabs with drops; nor shall the sum of the negative moments be less than sixty (60) per cent. of the total moment, nor the sum of the positive moments be less than forty (40) per cent. of the total moment for slabs without drops.

1. In *two-way systems*, for slabs with drops, the negative moment resisted on two column head sections shall be $-1/32$ W L; the negative moment on the mid section shall be $-1/133$ W L; the positive moment on the two outer sections shall be $+1/80$ W L, and the positive moment on the inner section shall be $+1/133$ W L; and for slabs without drops, the negative moment resisted on two column head sections shall be $-1/36$ W L, the negative moment on the mid section shall be $-1/133$ W L, the positive moment on the two outer sections shall be $+1/63$ W L, and the positive moment on the inner section shall be $+1/133$ W L.

2. In *four-way systems*, the negative moment shall be as specified for Two-Way Systems; the positive moment on the two outer sections shall be $+1/100$ W L, and the

positive moment on the inner section shall be $+1/100 W L$ for slabs with drops; and the positive moment on the two outer sections shall be $+1/74 W L$, and the positive moment on the inner section shall be $+1/100 W L$, for slabs without drops.

3. In *three-way systems*, the negative moment on the column head and mid sections and the positive moment on the two outer sections, shall be as specified for Four-Way Systems. In the expression for the bending moments on the various sections, the length L shall be assumed as the distance center to center of columns, and the load W as the load on the parallelogram panel.

B. *Interior rectangular panels.*

1. When the ratio n does not exceed 1.1, all computations shall be based on a square panel of a length equal to the average span, and the reinforcement shall be equally distributed in the short and long directions according to the bending moment coefficients specified for interior square panels.

2. When the ratio n lies between 1.1 and 1.33, the bending moment coefficients specified for interior square panels shall be applied in the following manner:

(a) In *two-way systems*, the negative moments on the two column head sections and the mid section and the positive moment on the two outer sections and the inner section at right angles to the long direction shall be determined as for a square panel of a length equal to the greater dimension of the rectangular panel; and the corresponding moments on the sections at right angles to the short direction shall be determined as for a square panel of a length equal to the lesser dimension of the rectangular panel. In no case shall the amount of reinforcement in the short direction be less than two-thirds ($2/3$) of that in the long direction. The load W shall be taken as the load on the rectangular panel under consideration.

(b) In *four-way systems*, for the rectangular bands, the negative moment on the column head sections and the positive moment on the outer sections shall be determined in the same manner as indicated for *two-way systems*.

For the diagonal bands, the negative moments on the column head and mid sections and the positive moment on the inner section shall be determined as for a square panel of a length equal to the average span of the rectangle. The load W shall be taken as the load on the rectangular panel under consideration.

(c) In *three-way systems*, the negative and positive moments on the bands running parallel to the long direction shall be determined as for a square whose side is equal to the greater dimension; and the moments on the bands running parallel to the short direction shall be determined

as for a square whose side is equal to the lesser dimensions. The load W shall be taken as the load on the parallelogram panel under consideration.

C. *Exterior panels.* The negative moments at the first interior row of columns and the positive moments at the center of the exterior panels on moment sections parallel to the wall, shall be increased twenty (20) per cent. over those specified above for interior panels. The negative moment on moment sections at the wall and parallel thereto shall be determined by the conditions of restraint, but the negative moment on the mid section shall never be considered less than fifty (50) per cent. and the negative moment on the column head section never less than eighty (80) per cent. of the corresponding moments at the first interior row of columns.

D. *Interior columns* shall be designed for the bending moments developed by unequally loaded panels, eccentric loading or uneven spacing of columns. The bending moment resulting from unequally loaded panels shall be considered as $1/40 W_1 L$, and shall be resisted by the columns immediately above and below the floor line under consideration in direct proportion to the values of their ratios of I/h .

E. *Wall columns* shall be designed to resist bending in the same manner as interior columns, except that W shall be substituted for W_1 in the formula for the moment. The moment so computed may be reduced by the counter moment of the weight of the structure which projects beyond the center line of the wall columns.

F. *Roof columns* shall be designed to resist the total moment resulting from unequally loaded panels, as expressed by the formulae in paragraphs (D) and (E) of this rule.

13. *Walls and openings.* In the design and construction of reinforced concrete flat slabs, additional slab thickness, girders or beams shall be provided to carry any walls or concentrated loads in addition to the specified uniform live and dead loads. Such girders or beams shall be assumed to carry twenty (20) per cent. of the total live and dead panel load in addition to the wall load. Beams shall also be provided in case openings in the floor reduce the working strength of the slab below the prescribed carrying capacity.

14. *Special panels.* For structures having a width of less than three (3) rows of slabs, or in which exterior drops, capitals or columns are omitted, or in which irregular or special panels are used, and for which the rules relating to the design of reinforced flat slabs do not directly apply, the computations in the analysis of the design of such panels, shall, when so required, be filed with the superintendent of buildings.

GREATER NEW YORK CHARTER

CHAPTER 19.

TABLE 7.

Lodging Houses.

- Section 1304. Construction generally.
1305. Definitions.
1306. Roofs and stairs and fire-escapes.
1307. Sleeping rooms; ventilation.
1308. Water-closets, privies and sinks.
1309. Cellars and basements not to be occupied for living purposes, except in certain cases.
1310. Cellars and vaults not to be used for sleeping rooms.
1311. Certain occupations and business prohibited.
1314. Houses hereafter erected to comply with additional requirements.
1315. Construction of lodging-houses and spaces prescribed for building the same.
1316. Dimensions and ventilation of rooms.
1317. Penalties for violations of provisions.
1318. Power of bureau of buildings and of board of health to make other regulations relative to lodging-houses.

§1304. Construction generally. Every house, building, or portion thereof, in The City of New York, used, occupied, leased or rented for a lodging-house must conform in its construction, appurtenances and premises to the requirements of this title; and its use and occupation shall be regulated subject to the ordinances of the sanitary code, applicable thereto, and the orders of the board of health duly made, pursuant to its authority, duty and powers conferred and enjoined upon it in this chapter.

§1305. Definitions. A lodging-house shall be taken to mean and include any house or building, or portion thereof, in which persons are harbored, or received or lodged, for hire for a single night, or for less than a week at one time, or any part of which is let for any person to sleep in, for any term less than a week. A cellar shall be taken to mean and include every basement or lower story of any building or house of which, one-half or more of the height from the floor to the ceiling, is below the level of the street adjoining.

§1306. Roofs and stairs and fire-escapes. The roof of every such house shall be kept in good repair, and so as not

to leak, and all rain water shall be so drained or conveyed therefrom as to prevent its dripping on to the ground, or causing dampness in the walls, yards, or area. All stairs shall be provided with proper banisters and railings, and shall be kept in good repair. Every such house shall be provided with a proper fire-escape, or means of escape in case of fire, to be approved by the bureau of buildings.

§1307. **Sleeping rooms; ventilation.** Every house, building or portion thereof in the city designed to be used, occupied, leased, or rented, or which is used, occupied, leased or rented for a lodging house, shall have in every room which is occupied as a sleeping room, and which does not communicate directly with the external air, a ventilating or transom window, having an opening or area of three square feet, over the door leading into, and connected with the adjoining room, if such adjoining room communicates with the external air, and also a ventilating or transom window of the same opening or area, communicating with the entry or hall of the house, or where this is, from the relative situation of the rooms, impracticable, such last-mentioned ventilating or transom window shall communicate with an adjoining room that itself communicates with the entry or hall. Every such house, or building, shall have in the roof, at the top of the hall, an adequate and proper ventilator, of a form approved by the bureau of buildings.

§1308. **Water-closets, privies and sinks.** Every lodging-house shall be provided with as many good and sufficient water-closets, improved privy sinks, or other similar receptacles, as the department of health shall require, but in no case shall there be less than one for every fifteen occupants. The water-closets, sinks, and receptacles shall have proper doors, soil pipes, and traps, all of which shall be properly ventilated to prevent the escape of deleterious gas and odors, soil pans, cisterns, pumps and other suitable works and fixtures, necessary to insure the efficient operation, cleansing, and flushing thereof. Every lodging-house situated upon a lot on a street or avenue in which there is a sewer, shall have a separate and proper connection with the sewer; and the water-closets, sinks, and other receptacles shall be properly connected with the sewer by proper pipes made thoroughly air-tight. Such sewer connection, and all the drainage and plumbing work, water-closets, sinks and other receptacles, in and for every lodging-house shall be of the form, construction, or arrangement, location, materials, workmanship and description as may be required by the rules and regulations of the bureau of buildings of The City of New York. Every owner, lessee and occupant shall take adequate measures to prevent im-

proper substances from entering such water-closets, or sinks, or their connections, and to secure the prompt removal of any improper substances that may enter them, so that no accumulation shall take place, and so as to prevent any exhalations therefrom, offensive, dangerous and prejudicial to life or health, and so as to prevent the same from being or becoming obstructed. No privy, vault or cess-pool shall be allowed in, under, or connected with any such house except when it is unavoidable, and a permit therefor shall have been granted by the department of health, and in such case it shall be constructed in such situation and in such manner as the bureau of buildings may direct. It shall in all cases be water-tight and arched or securely covered over, and no offensive smell or gases shall be allowed to escape therefrom, or from any closet, sink or privy. In all cases where a sewer exists in the street or avenue, upon which the house or building stands, the yard or area shall be connected with the sewer, so that all water from the roof or otherwise, and all liquid filth shall pass freely into the sewer. Where there is no sewer in the street or avenue, or adjacent thereto, with which connection can be made, the yard and area shall be so graded that all water from the roof or otherwise, and all filth shall flow freely therefrom into the street gutter, by a passage beneath the sidewalk, which passage shall be covered by a permanent cover, so arranged as to permit access to remove obstructions or impurities.

§1309. Cellars and basements not to be occupied for living purposes, except in certain cases. It shall not be lawful, without a permit from the bureau of buildings, to construct, during the erection of a lodging-house, nor after the completion of such lodging-house, any room or rooms in any basement or cellar to be occupied wholly or in part as a dwelling, nor shall it be lawful without a permit from the department of health to let, occupy, or suffer to be occupied separately as a dwelling, any vault, cellar, or underground room, built or rebuilt after July first, eighteen hundred and sixty-seven, or which shall not have been so let or occupied before said date.

§1310. Cellars and vaults not to be used for sleeping rooms. No vault, cellar, or underground room shall be occupied as a place of lodging or sleeping, except the same shall be approved, in writing, and a permit given therefor by the board of health. No wall paper shall be placed upon a wall or ceiling of any lodging-house, unless all wall paper shall be first removed therefrom, and said wall and ceiling thoroughly cleansed. Every lodging-house, and every part thereof, shall be kept clean and free from any accumulations of dirt, filth, garbage or other matter in or on the same, or

in the yard, court, passage, area or alley connected with it, or belonging to the same. The owner or keeper of any lodging-house shall thoroughly cleanse all the rooms, passages, stairs, floors, windows, doors, walls, ceilings, privies, cesspools and drains of the house or part of the house of which he is the owner or lessee, to the satisfaction of the department of health, so often as he shall be required by or in accordance with any order of the board of health and any regulation or ordinance of said department, and shall well and sufficiently, to the satisfaction of the said health department, whitewash the walls and ceilings thereof once at least in every year.

§1311. Certain occupations and business prohibited. Every lodging-house shall have the proper and suitable conveniences or receptacles for receiving garbage and other refuse matters. No lodging-house or premises, nor any portion thereof, shall be used as a place of storage for any combustible article, or any article dangerous to life or detrimental to health; nor shall any horse, cow, calf, swine, pig, sheep or goat be kept in said house or on the premises thereof.

§1314. Houses hereafter erected to comply with additional requirements. No house hereafter erected shall be used as a lodging-house, and no house, heretofore erected and not now used for such purpose, shall be converted into, used, or leased for a lodging-house, unless, in addition to the requirements hereinbefore contained, it conforms to requirements contained in the following sections of this title.

§1315. Construction of lodging-houses and spaces prescribed for building the same. It shall not be lawful, without a permit from the bureau of buildings, to alter, erect or convert to the purposes of a lodging-house, a building on any lot where there is another building on the same lot; nor shall it be lawful to build or to erect any building on any lot whereon there is already a lodging house, unless there is a clear open space exclusively belonging thereto, and extending upward from the ground of at least ten feet between said buildings if they are one story high above the level of the ground; if they are two stories high, the distance between them shall not be less than fifteen feet; if they are three stories high, the distance shall not be less than twenty feet; if they are more than three stories high, the distance between them shall not be less than twenty-five feet, but when thorough ventilation of such open spaces can be otherwise secured, such distances may be lessened or modified in special cases by a permit from the bureau of buildings. At the rear of every building hereafter erected for or converted to the purposes of a lodging-house on any lot, there

shall be and remain a clear open space of not less than ten feet between it and the rear end of the lot. No one continuous building hereafter constructed shall be built or converted to the purposes of a lodging-house in The City of New York, upon an ordinary city lot, and no existing lodging-house shall be enlarged or altered, or its lot be diminished, so that it shall occupy more than sixty-five per centum of the area of said lot, but where the light and ventilation of said lodging-house are, in the opinion of the superintendent of buildings, materially improved, he may permit such lodging-house to occupy an area not exceeding seventy-five per centum of the said lot, and the same proportion if the lot be greater or less in size than twenty-five by one hundred feet; but this provision shall not apply to corner lots, in which, however, no such building hereafter constructed, above the first story, shall occupy more than ninety-two per centum of the area of a lot, and no such building shall come within five feet of the rear of said lot, provided, further, that in all cases, both for corner and interior lots, the interior courts or shafts shall not be less than two feet four inches wide at their narrowest parts. In computing the amount of the lot covered by a building, any shaft or court of less than twenty-five square feet in area shall be considered as part of the building and not as part of the free air space. No shaft or court, over ten square feet in area, hereafter constructed in a lodging-house, except elevator shafts or staircase wells, shall be covered with a roof, skylight or otherwise. The light and ventilation of all buildings hereafter erected for, or converted to the purpose of lodging-houses, must be provided in accordance with the requirements of this title, and the conditions of a plan and permit previously approved in writing by the bureau of buildings, and no existing lodging-houses shall be enlarged or altered or its lot diminished without a similar permit. The bureau of buildings is hereby empowered and directed to make rules and regulations not inconsistent with the requirements of this title, and which, in addition to the requirements of this title, shall be the conditions of approval of the plans and permits; the rules and regulations shall govern the arrangement and distribution of the uncovered area, size, lighting, location and arrangement of shafts, rooms, cellars and halls. In case of any violation of the provisions of this section, or of any failure to comply with, or of any violation of the terms and conditions of the plan for such lodging-house approved by the bureau of buildings, or of the conditions of the permits granted as hereinbefore provided, or for the air, light and ventilation of the said house, or premises, any court of record, or any judge or justice thereof shall have power, at any time after service of notice of violation, or of non-

compliance, upon the owner, builder or other persons superintending the building, or converting any such house, upon proof by affidavit of any violation or non-compliance as aforesaid, or that a plan for light and ventilation of such house has not been approved by the bureau of buildings, to restrain by injunction order, in any action by the bureau of buildings, or by the board of health, the further progress of any violation as aforesaid. No undertaking shall be required as a condition of granting an injunction or by reason thereof.

§1316. Dimensions and ventilation of rooms. In every such house hereafter erected or converted every habitable room, except rooms in the attic, shall be in every part not less than eight feet in height from the floor to the ceiling; and every habitable room in the attic of any such building shall be at least eight feet in height from the floor to the ceiling, throughout not less than one-half the area of such room. Every such room shall have at least one window connecting with the external air, or over the door a ventilator of perfect construction, connecting it with a room or hall which has a connection with the external air, and so arranged as to produce a cross-current of air. The total area of window or windows in every room communicating with the external air shall be at least one-tenth of the superficial area of every such room; and the top of one, at least, of such windows shall not be less than seven feet six inches above the floor, and the upper half, at least, shall be made so as to open the full width. Every habitable room of a less area than one hundred superficial feet, if it does not communicate directly with the external air, and is without an open fireplace, shall be provided with special means of ventilation, by a separate air shaft extending to the roof, or otherwise, as the board of health may prescribe.

§1317. Penalties for violations of provisions. Every owner or other person violating any provision of this title shall be guilty of a misdemeanor, punishable by a fine of not less than ten dollars or more than one hundred dollars, or by imprisonment for not more than ten days for each and every day that such violation shall continue, or by both such fine and imprisonment, in the discretion of the court. He shall also be liable to pay a penalty of ten dollars for each day that such offense shall continue. Such penalty may be sued for and recovered by the department of health in any civil tribunal of said city, and when recovered shall be paid over to the chamberlain. In every proceeding for a violation of this title and in every such action for a penalty, it shall be the duty of the owner of the house to prove the date of its erection, or conversion to its existing use, if that fact shall become material, and the owner shall be, *prima facie*, the person liable to pay such penalty, and

after him the person who is the lessee of the whole house, in preference to the tenant or lessee of a part thereof. In any such action the owner, lessee, and occupant or any two of them, may be made defendants, and judgment may be given against the one or more shown to be liable, as if he or they were sole defendant or defendants. No part of chapter two hundred and seventy-five of the laws of eighteen hundred and ninety-two, or of any other act shall be so construed as to abrogate or impair the power of the department of health to sue for and recover such a penalty whether the liability to pay said penalty shall arise from a violation of the laws, or ordinances or sections of the sanitary code, in regard to light, ventilation, plumbing and drainage, so far as the same affects the sanitary condition of the premises; and except that the bureau of buildings shall have jurisdiction and cognizance over all matters and things in this title contained which relate to the construction or alteration of buildings or structures, or any part thereof, and as to the light, ventilation, drainage and plumbing of such buildings when in process of construction or alteration. Any penalty herein above mentioned for a violation of the provisions of this title, in respect to the matter aforesaid, within the jurisdiction and cognizance of the bureau of buildings, shall be sued for and recovered in the same manner as the violations of the building laws of The City of New York are now sued for and recovered by the bureau of buildings, and said penalties so collected shall be paid to the chamberlain of The City of New York to be applied as other penalties collected by said department are applied.

§1318. Power of bureau of buildings and of board of health to make other regulations relative to lodging-houses. The bureau of buildings shall have authority to make other regulations as to the light and ventilation of all new lodging-houses consistent with the foregoing, when it shall be satisfied that such regulations will secure equally well the health and safety of the occupants; likewise, the board of health shall have authority to make other regulations as to cellars and as to ventilation in completed lodging-houses, consistent with the foregoing, where it shall be satisfied that such regulations will secure equally well the health of the occupants. The board of health shall have power to appoint all the officers and agents of the department of health, of whatever name or character soever, and shall have exclusive charge and control of, and the exercise of, all the rights, powers, duties and privileges of said department, and for this purpose the terms "board of health" and "department of health," as used in this chapter, shall be deemed synonymous.

RULES FOR THE TESTING OF WOOD

Pursuant to the Provision of Section 356 of Chapter 5 of the
Code of Ordinances (Building Code).

(639-27-SR)

Adopted by the Board of Standards and Appeals July 22, 1927.

Amended March, 16, 1928.

Rule 1. Before any wood may be used for flooring or interior trim where incombustible materials are required under the provisions of section 356 of the Building Code, the superintendent of buildings must be notified promptly upon the delivery at the job of a consignment of such material. One test sample for each 2,000 feet of material will then be selected by a representative of the Bureau of Buildings, marked for identification, and forwarded to the testing laboratory, where, under the supervision of the superintendent of buildings or his representative, the samples shall be subjected to the following tests:

Before making tests of all specimens for testing shall be oven dried at a temperature of 140° F. to a point where there is no further loss of weight due to evaporation of moisture content.

A. Shaving Test.—A mass of shavings cut fairly thick from the outside and interior of sticks of the treated wood are to be tested separately. These shavings shall be placed to a depth of two inches in a metal vessel twelve inches square, the bottom of which shall consist of a wire screen of $\frac{1}{2}$ inch mesh. The shavings shall be packed down moderately to reduce the air spaces. A Bunsen yellow flame shall then be placed beneath the receptacle so that the flame is in contact with the shavings. After twenty-five seconds the flame shall be removed. The flame at no time should show higher than six inches above the top of the bed of shavings and the shavings should not be consumed in less than five minutes.

B. Timber Test.—Two samples $\frac{3}{4}$ inch by $1\frac{1}{2}$ inches in cross section and twelve inches long shall be laid side by side across the top of a gas crucible furnace with a pyrometer between them. The specimens shall be subjected to a flame at 1700 deg. Fahrenheit for two minutes, the test pieces shall then be removed, and the time of duration of flame and glow observed. The sticks shall then be cut through the middle at the most burned section and the area of the unburned wood measured with a planimeter. The flame must not persist longer than 15 seconds nor the glow longer than 20 seconds, and, in the case of hard woods, the unburned area should not be less than 55 per cent., nor in the case of soft woods less than 45 per cent.

C. Crib Test.—Twenty samples are to be prepared, each $\frac{1}{2}$ inch square and 6 inches long. These shall be built up on a ring support to form a crib work five tiers high, four sticks to a tier, making the crib six inches by six inches and approximately $2\frac{1}{2}$ inches high. The crib shall be set six inches above a Bunsen burner to which the crib shall be exposed for a period of one minute at a temperature approximating 1200 deg. Fahrenheit. The flame must not persist more than twenty seconds after the Bunsen burner is removed, nor the glow last more than thirty seconds. The tendency of the flame to spread from stick to stick must also be noted.

Rule 2. All of the above tests shall be at the expense of the owner or contractor or other interested party.

If the tests are satisfactory the entire shipment will be permitted to be taken into the building and used. If not, the entire shipment shall be condemned and must be removed from the premises.

In general, acceptance shall be predicated upon the existence of a complete plant in full working order from which the material is shipped, and each shipment, or, where possible, each piece shall be trade marked in a conspicuous manner so that there may be no doubt as to its identity.

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